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	NAPP2200356328
District RP	
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.g.pennington@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707	

Location of Release Source

Latitude 32.37988 Longitude -103.88687
(NAD 83 in decimal degrees to 5 decimal places)

Site Name JRU DI 1 Battery	Site Type Tank Battery
Date Release Discovered 12/20/2021	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
F	21	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) 5.08	Volume Recovered (bbls) 5
	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 pin hole leak on a flowline connection developed due to corrosion. A vacuum truck was dispatched to recover standing fluids. A third party contractor will be retained for remediation activities.	

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2200356328
District RP	
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

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

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

NA

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

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

Printed Name: Adrian Baker Title: SSHE Coordinator

Signature: Adrian Baker Date: 1/3/21

email: adrian.baker@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: Ramona Marcus Date: 1/3/2022

Location:	JRU DI 1	
Spill Date:	12/20/2021	
Area 1		
Approximate Area =	360.00	sq. ft.
Average Saturation (or depth) of spill =	0.50	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Condensate =	0.00	bbls
Total Produced Water =	0.08	bbls
TOTAL VOLUME OF LEAK		
Total Condensate=	**0.00**	**bbls**
Total Produced Water =	**5.08**	**bbls**
TOTAL VOLUME RECOVERED		
Total Condensate=	**0.00**	**bbls**
Total Produced Water =	**5.00**	**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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 70018
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	1/3/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2200356328
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2200356328
District RP	
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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: Environmental Coordinator

Signature: Adrian Baker Date: 03/18/2022

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

OCD Only

Received by: Date:

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Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2200356328
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Adrian Baker Title: Environmental Coordinator

Signature: Adrian Baker Date: 03/18/2022

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

OCD Only

Received by: Date:

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

Signature: Jennifer Nobui Date: 03/22/2022

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

March 18, 2022

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

RE: Deferral Request
JRU DI 1 Battery
Incident Number NAPP2200356328
Eddy County, New Mexico

To Whom it May Concern:

WSP USA Inc. (WSP) on behalf of XTO Energy, Inc. (XTO), presents the following Deferral Request detailing site assessment, soil sampling, and excavation activities at the JRU DI 1 Battery (Site) in Unit F, Section 21, Township 22 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil following a release of produced water at the Site. Based on field observations, field screening activities, and soil sampling laboratory analytical results, XTO is submitting this Deferral Request, describing remediation that has occurred and requesting deferral of final remediation for Incident Number NAPP2200356328 until the Site is reconstructed, and/or the well pad is abandoned.

RELEASE BACKGROUND

On December 20, 2021, a flow line connection developed a pin hole leak due to corrosion. Approximately 5.08 barrels (bbls) of produced water were released onto the surface of the well pad within and around active production equipment. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 5 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Form C-141 on January 3, 2022. The release was assigned Incident Number NAPP2200356328.

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 estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-03015, located approximately 0.97 miles southeast of the Site. The groundwater well was most

recently measured in January 2004 has a reported depth to groundwater of 262 feet bgs and a total depth of 1,318 feet bgs. Ground surface elevation at the groundwater well location is 3,285 feet above mean sea level (amsl), which is approximately 118 feet higher in elevation than the Site. All wells used for depth to groundwater determination are depicted on Figure 1. The referenced well records are included in Attachment 1.

The closest continuously flowing or significant watercourse to the Site is a dry riverine, located approximately 886 feet 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 underlain by unstable geology (high 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): 100 mg/kg
- Chloride: 600 mg/kg

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On February 15, 2022, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP personnel collected two preliminary assessment soil samples (SS01 through SS02) within the release extent from a depth of approximately 0.5 feet bgs to assess the impacted soil. The preliminary soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed, and a photographic log is included in Attachment 2.

The preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Midland, Texas, 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.

Laboratory analytical results for preliminary soil samples SS01 through SS02 indicated that TPH and/or chloride concentrations exceeded the Closure Criteria. Based on visible staining in the release extent, elevated field screening results, and laboratory analytical results for the preliminary soil samples, excavation and delineation activities were warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

Between February 24, 2022 and February 28, 2022, WSP personnel were at the Site to oversee delineation and excavation activities. Boreholes BH01 through BH08 were advanced via hand auger to a maximum depth of 8 feet bgs within and around the release extent, to assess the lateral and vertical extent of the impacted soil. Delineation soil samples were collected from each borehole from depths ranging from 1-foot bgs to 8 feet bgs. Soil from the boreholes was field screened for volatile aromatic hydrocarbons and chloride using a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Attachment 3. The boreholes and delineation soil sample locations are depicted on Figure 2.

Following delineation activities, impacted soil was excavated from accessible areas of release extent, as indicated by visible staining, field screening activities, and laboratory analytical results for the preliminary soil samples. Excavation activities were performed using a backhoe, transport vehicle, and hydrovac. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Excavation could not be completed in the release areas immediately adjacent to or beneath active production equipment where remediation would require major facility deconstruction and where XTO safety policy restricts soil disturbing activities to a 2-foot radius of active production equipment.

Following excavation of impacted soil to the extent possible, WSP collected 5-point composite soil samples representing at least 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Floor soil samples FS01 through FS04 were collected from the floor of the excavations from a depth of 1.5 feet bgs. Due to the shallow depth of the excavations, the floor samples were also representative of the sidewalls. Further excavation of impacted soil beyond the excavation extents was limited by the presence the active production equipment. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above at Eurofins in Midland, Texas.

The western excavation extent measured approximately 550 square feet and the eastern excavation extent measured approximately 50 square feet. A total of approximately 35 cubic yards of impacted soil was removed from the release extent during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Carlsbad, New Mexico. After completion of confirmation sampling, the excavation areas were secured with fencing.

SOIL ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples collected from boreholes BH01 through BH03, advanced within the release extent, indicated that chloride concentrations exceeded the Closure Criteria at depths ranging from 1-foot to 4 feet bgs. The terminal depth sample from boreholes BH01 through BH03 was compliant with the Closure Criteria and provided vertical delineation of impacted soil within the release extent.

Laboratory analytical results for delineation soil samples collected from boreholes BH04 through BH08, advanced around the release extent, indicated that benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria, and provided lateral delineation of the release and impacted soil left in place near active production equipment.

Laboratory analytical results for excavation floor samples FS01, FS02, and FS03 indicated that benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria, and no further excavation was required in this area. Laboratory analytical results for excavation floor sample FS04 indicated that chloride concentrations exceeded the Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Attachment 4.

DEFERRAL REQUEST

A total of approximately 35 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place immediately adjacent to active production equipment for compliance with XTO safety policy, which restricts earth moving activities within 2 feet of active production equipment. This XTO safety policy is established to protect workers and reduce the likelihood of compromising the foundation of the production equipment. Impacted soil was left in place immediately adjacent to or beneath active production equipment where remediation would require a major facility deconstruction, and in the area around floor sample FS04 and borehole BH03 for compliance with XTO safety policy.

The impacted soil left in place is delineated vertically by delineation soil sample BH03E collected at 8 feet bgs and laterally by delineation soil samples from boreholes BH04 through BH08 collected at depths ranging from 1 foot bgs to 4 feet bgs. An estimated 45 cubic yards of impacted soil remains in place, based on the release extent and delineation soil samples listed above, that

were compliant with the Closure Criteria. Floor sample FS04, borehole BH03, the deferral area, and all lateral delineation soil sample locations are depicted on Figure 4.

XTO requests to complete final remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first. WSP and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The majority of the released fluids were recovered during initial response activities and the impacted soil remaining in place is limited to the area immediately adjacent or beneath active production equipment. XTO requests deferral of final remediation for Incident Number NAPP2200356328.

If you have any questions or comments, please do not hesitate to contact Mrs. Aimee Cole at (720) 384-7365.

Sincerely,

WSP USA Inc.

Korey Kennedy
Consultant, Environmental Scientist

Aimee Cole
Sr. Consultant, Environmental Scientist

cc: Shelby Pennington, XTO
Adrian Baker, XTO
Bureau of Land Management

Attachments:

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

FIGURES

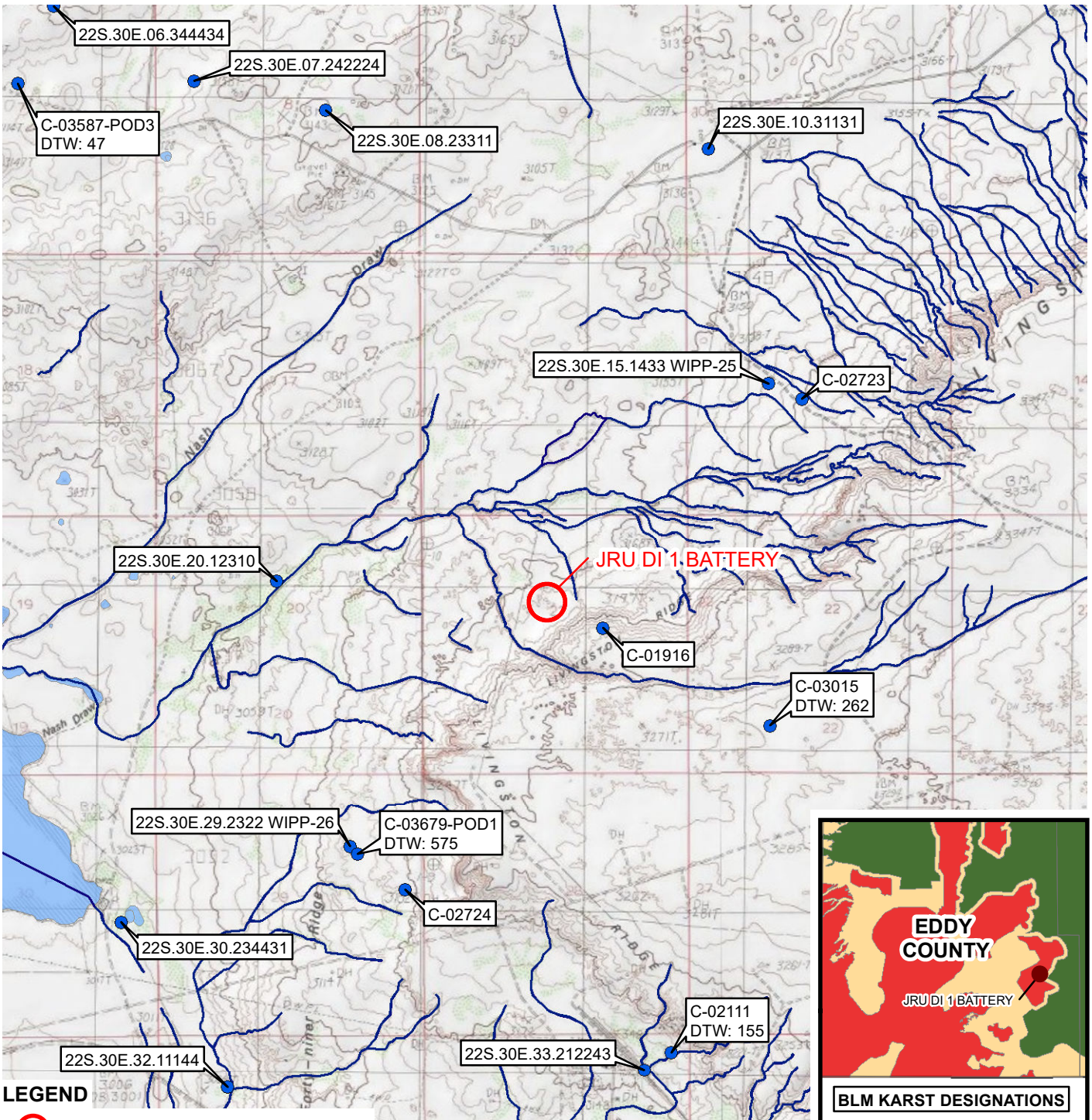


FIGURE 1
SITE LOCATION MAP
JRU DI 1 BATTERY
UNIT F SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

C:\Users\USTJ689650\OneDrive - WSP O365\XTO\31403236.020.0129.22_JRU DI 1\MXD\31403236.020.0129.22_FIG01_SL_RECEPTOR_2022.mxd

LEGEND

IMAGE COURTESY OF ESRI

- RELEASE LOCATION
- SOIL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA
- SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE EXTENT

0 50 100
Feet

N

NOTE: INCIDENT NUMBER NAPP2200356328
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

FIGURE 2
SOIL SAMPLE LOCATIONS
JRU DI 1 BATTERY
UNIT F SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\31403236.020.0129.22_JRU DI 1\MXD\31403236.020.0129.22_FIG02_SS_LOC_2022.mxd

LEGEND

IMAGE COURTESY OF ESRI

- RELEASE LOCATION
- FLOOR SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- EXCAVATION EXTENT

NOTE: INCIDENT NUMBER NAPP2200356328
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

0 50 100
Feet

N

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
JRU DI 1 BATTERY
UNIT F SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

wsp

P:\XTO Energy\GIS\31403236.020.0129.22_JRU DI 1\MXD\31403236.020.0129.22_FIG03_EXCAVATION_2022.mxd

LEGEND

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

NOTE: INCIDENT NUMBER NAPP2200356328
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI

0 50 100
Feet

N

FIGURE 4
DEFERRAL AREA
JRU DI 1 BATTERY
UNIT F SEC 21 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\31403236.020.0129.22_JRU DI 1\MXD\31403236.020.0129.22_FIG04_DEFERRAL_2022_1.mxd

TABLES

Table 1

Soil Analytical Results
JRU DI 1 Battery
Incident Number NAPP2200356328
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	NE	**100**	**600**
Preliminary Assessment Samples										
SS01	02/15/2022	0.5	<0.00200	0.0435	750	<49.9	<49.9	750	**750**	**13,800**
SS02	02/15/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	**14,700**
Delineation Samples										
BH01	02/24/2022	1'	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	**3,110**
BH01C	02/24/2022	4'	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	195
BH02	02/24/2022	1'	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	**2,150**
BH02C	02/24/2022	4'	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	31.0
BH03A	02/24/2022	2'	<0.00199	<0.00398	<50.0	62.2	<50.0	62.2	62.2	**11,400**
BH03C	02/24/2022	4'	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	**1,950**
BH03E	02/24/2022	8'	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	450
BH04	02/25/2022	1'	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	264
BH04C	02/25/2022	4'	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	136
BH05	02/25/2022	1'	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	141
BH05C	02/25/2022	4'	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	232
BH06	02/25/2022	1'	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	246
BH06C	02/25/2022	4'	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	110
BH07	02/28/2022	1'	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	276
BH07C	02/28/2022	4'	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	98.3
BH08	02/28/2022	2'	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	197
BH08C	02/28/2022	4'	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	281

Table 1

Soil Analytical Results
JRU DI 1 Battery
Incident Number NAPP2200356328
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	NE	**100**	**600**
Excavation Floor Samples										
FS01	02/28/2022	1.5	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	529
FS02	02/28/2022	1.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	268
FS03	02/28/2022	1.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	147
FS04	02/28/2022	1.5	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	**3,180**

Notes:

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

ATTACHMENT 1: REFERENCED WELL RECORDS

New Mexico Office of the State Engineer
Water Right Summary

WR File Number: C 03015 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: U.S. DEPT OF ENERGY - WIPP

Contact: HAROLD JOHNSON

Documents on File

Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
288525	EXPL	2003-11-25	PMT	LOG	C 03015 MONITORING WELL	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 03015		Artesian	1	4	3	22	22S	30E	606099	3582353*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0	0		MON		GW	

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 03015	1	4	3	22	22S	30E	606099	3582353*

Driller License: 331 **Driller Company:** SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.

Driller Name:

Drill Start Date:	01/21/2004	**Drill Finish Date:**	01/25/2004	**Plug Date:**	
Log File Date:	03/04/2004	**PCW Rcv Date:**		**Source:**	Artesian
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	6.00	**Depth Well:**	1316 feet	**Depth Water:**	262 feet

Water Bearing Stratifications:	Top	Bottom	Description
	362	385	Other/Unknown

Casing Perforations:	Top	Bottom
	261	386

***UTM location was derived from PLSS - see Help**

National Water Information System: Web Interface

USGS Water Resources (Cooperator Access)

Data Category: Site Information GO | Geographic Area: United States GO

Click to hideNews Bulletins

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

USGS 322252103541401 22S.30E.20.12310

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

Latitude 32°22'52", Longitude 103°54'14" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 129 feet
Land surface altitude: 3,065 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1952-02-26	1959-02-19	2
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

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

---

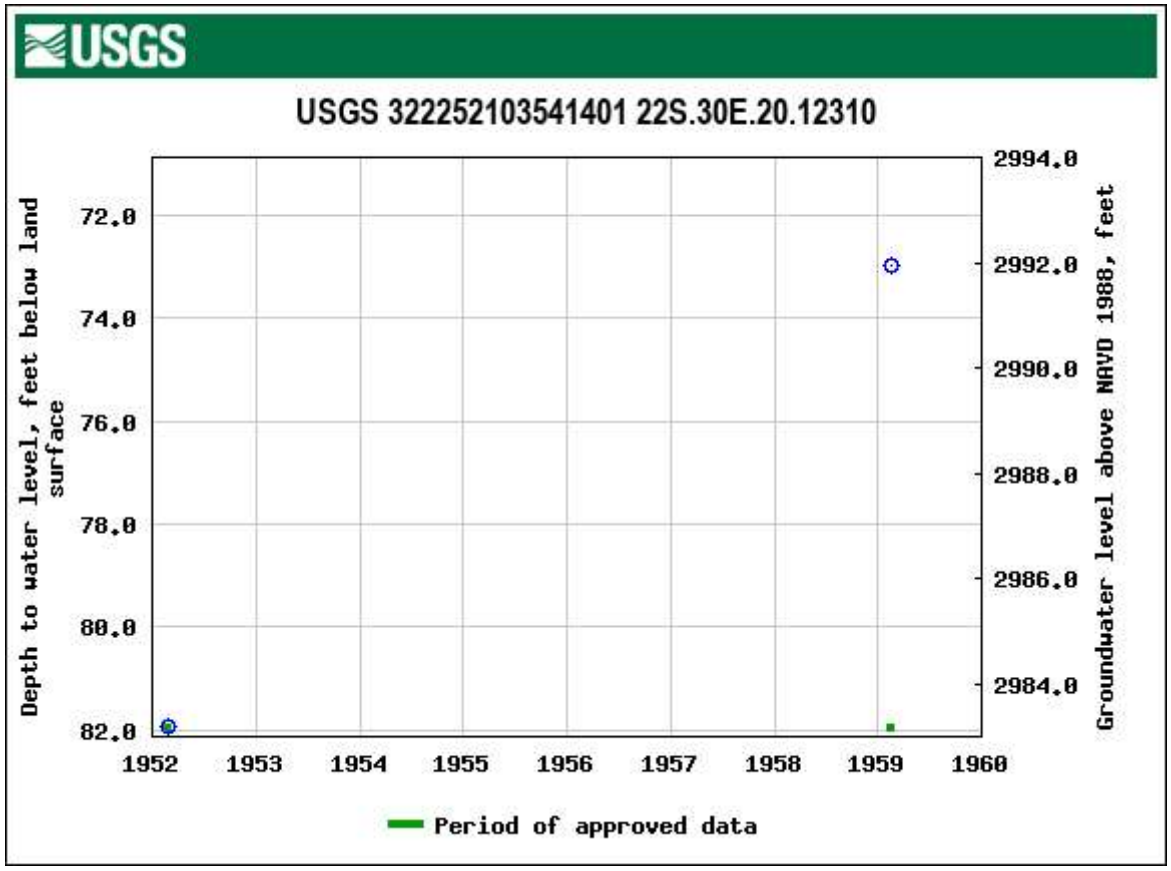
Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=322252103541401

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2022-02-03 09:48:59 EST
0.26 0.25 sdww02


USGS
USGS 322252103541401 22S.30E.20.12310
Depth to water level, feet below land surface
72.0
74.0
76.0
78.0
80.0
82.0
Groundwater level above NAVD 1988, feet
2994.0
2992.0
2990.0
2988.0
2986.0
2984.0
1952
1953
1954
1955
1956
1957
1958
1959
1960
Period of approved data

ATTACHMENT 2: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
XTO Energy, Inc	JRU DI 1 Battery Eddy County, NM	NAPP2200356328

Photo No.	Date
1	December 21, 2021

Western view of release area.

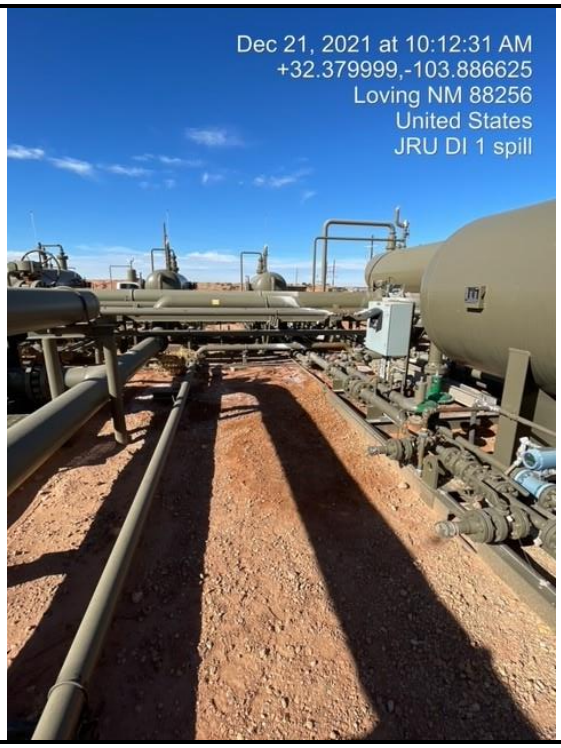


Photo No.	Date
2	December 21, 2021

Eastern view of release area.

PHOTOGRAPHIC LOG		
XTO Energy, Inc	JRU DI 1 Battery Eddy County, NM	NAPP2200356328

Photo No.	Date
3	February 24, 2022

Western excavation area.

Photo No.	Date
4	February 25, 2022

Eastern excavation area.

ATTACHMENT 3: LITHOLOGIC/SAMPLING LOGS

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or MW Name: BH 01	Date: 2/24/22
Site Name: JRU DI 1	
RP or Incident Number: NAPP2200356328	
WSP Job Number:	
Logged By: NK	Method: Hand Auger
Hole Diameter:	Total Depth: 4'
	Depth to Water: —

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.37985, -103.88687
Field Screening: TPH, Chlorides
Backfill or Well Construction Materials / Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
						0	CCHE	CALICHE, tan-light brown, fine to medium grained, silt, no stain no odor, non consolidated	
D	7.4 (2968)	0.0	N	BH01	1	1	SP		
	3.2 (621.6)	0.0		BH01A	2	2		SAND reddish brown, fine grain, silt, no stain, no odor	
	1.2 (<162.4)	0.3		BH01B	3	3		SAA + abundant gypsm	
M	1.2 (<162.4)	0.1		BH01C	4	4	TD@4'	SAA	

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or MW Name: BH 02
Date: 2/24/22
Site Name: JRU DZ 1
RP or Incident Number: NAPP2200356328
WSP Job Number:

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: NK
Method: Hand Auger
Lat/Long: 32.37988, -103.88687
Field Screening: TPH, Chlorides
Hole Diameter:
Total Depth: 4'
Depth to Water: —
Backfill or Well Construction Materials / Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
							CCHE	CALICHE, tan-light brown,	
D	6.2 (2016)	0	N	BH02	1	1	SP	fine to medium grain, silt, not consolidated, no stain, no odor.	
	2.4 (380.8)	0.0		BH02A	2	2		SAND, brown, fine grain, poorly sorted, no stain, no odor	
	1.2 (<162.4)	0.0		BH02B	3	3		SAA + trace gypsm	
	0.4 (<162.4)	0.0		BH02C	4	4		SAA + abundant gypsm	

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or MW Name: BH03	Date: 2/24/22
Site Name: JRU DI 1	
RP or Incident Number: NAPP2200356328	
WSP Job Number:	
Logged By: NK	Method: Hand Auger
Hole Diameter:	Total Depth: ~~4~~ 8'
Lat/Long:	Field Screening: TPH, Chlorides
	Depth to Water: —

LITHOLOGIC / SOIL SAMPLING LOG

Backfill or Well Construction Materials / Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
D	(H.R) 6.6 (10,684.8)	0.2	N	BH3	1	1	SP	SAND, trace caliche, trace silt, brown, fine to medium grained unconsolidated, no stain, no odor	
	(H.R) 7.4 (12,460)	0.2		BH3A	2	2		SAA + abundant silt.	
	(H.R) 5.8 (7901.6)	ϕ		BH3B	3	3		SAA	
	(L.R) 5.6 (1657.6)	ϕ		BH3C	4	4		SAA + trace gypsm	
D	(L.R) 3.6 (761.6)	ϕ	N	BH3D	6	6		SAA + no calcite or gypsm	
D	~~LA 88.8~~ 2.8 (492.8)	ϕ	N	BH3E	8	8		~~SAA~~	

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or MW Name: BH 04
Date: 02/25/22
Site Name: JRU DI 1
RP or Incident Number: NAPP2200356328
WSP Job Number:

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: NK
Method: Hand Auger
Lat/Long: 32.37988, -103.88687
Field Screening: TPH, Chlorides
Hole Diameter:
Total Depth: 4'
Depth to Water: —
Backfill or Well Construction Materials / Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
D	1.8 (235.2)	ϕ	N	BH 4	1	1	CCHE	CALICHE, trace silt, light brown tan, fine grained, unconsolidated, moderately sorted, no stain, no odor.	
D	1.8 (235.2)	ϕ	N	BH4A	2	2	SP	SAND, trace silt, brown, fine grained, no stain, no odor, unconsolidated, poorly sorted	
D	1.6 (196)	ϕ	N	BH4B	3	3			
D	1.0 (<162)	ϕ	N	BH4C	4	4		SAA for 3'	
								SAA for 4'	

1:53
1:59
2:00
2:06

WSP USA
528 West Stevens Street
Carlsbad, New Mexico 88220

BH or MW Name: BH05
Date: 2/25/22
Site Name: JRU DI 1
RP or Incident Number: NAPP2200356328
WSP Job Number:

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: NK
Method: Hand Auger
Lat/Long: 32.37988, -103.88687
Field Screening: TPH, Chloride
Hole Diameter:
Total Depth: 4'
Depth to Water: —
Backfill or Well Construction Materials / Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
D	1 (2162)	ϕ	N	BH5	1		CHE	CALICHE, tan–light brown, fine to med grain, silt, unconsolidated, no odor, no stain, poorly sorted.	
	1.4 (1624)	ϕ	N	BH5A	2		SP	SAND, brown, fine grained, abundant silt, no stain, no odor., abundant gypsm	
	1.8 (235.2)	ϕ	N	BH5B	3			SAA + trace gypsm	
	ND 1.8 (285.2)	ϕ	N	BH5C	4			SAA	

2:27
2:32
2:36
2:40

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or MW Name: BH06	Date: 2/25/22
Site Name: JRU DI 1	
RP or Incident Number: NAPP2200356328	
WSP Job Number:	
Logged By: NK	Method: Hand Auger
Lat/Long:	Field Screening: TPH, Chlorides
Hole Diameter:	Total Depth: 4'
	Depth to Water: —

LITHOLOGIC / SOIL SAMPLING LOG

Backfill or Well Construction Materials / Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
							CCHE	CALICHE, tan-light brown, fine grained, poorly sorted, unconsolidated, no stain, no odor., trace silt.	
D	1.6 (246.4)	ϕ	N	BH6	1	1	SP	SAND, fine grained, red with brown-brown, well sorted to moderately unconsolidated, no stain, no odor	
	1.8 (285.6)	ϕ		BH6A	2	2			
	1.0 (<1624)	ϕ	N	BH6B	3	3			
	1.0 (<1624)	ϕ	N	BH6 C	4	4		SAA + clayey, med. plasticity	

3:00
3:06
3:11
3:15

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH07	
Site Name: **James Ranch Unit DI 1**	
RP or Incident Number:	NAPP2200356328
WSP Job Number:	**31403236.020.0129**

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:	Field Screening:	Logged By:AC	Method: HAND AUGER
		Hole Diame 0.5'	Total Depth: 4'

Comments: all chloride tests contain 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
					0	0		
D	252	0.3	N	BH07	1	1	CCHE	CALICHE, tan-light brown. No stain or odor
D	442.4	0.3	N	BH07A	2	2	SP	SAND, reddish/brown, medium-coarse grained, poorly graded, no stain or odor
D	179.2	0.2	N	BH07B	3	3		abundant crystalline gypsur @ 3.5'
D	212.8	0.2	N	BH07C	4	4		TD @ 4' bgs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH08	
Site Name: **James Ranch Unit DI 1**	
RP or Incident Number:	NAPP2200356328
WSP Job Number:	**31403236.020.0129**

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:	Field Screening:	Logged By:AC	Method: HAND AUGER
		Hole Diame 0.5'	Total Depth: 4'

Comments: all chloride tests contain 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
					0	0		
D	896	0.3	N	BH08	1	1	CCHE	CALICHE, tan-light brown. No stain or odor
D	252	0.4	N	BH08A	2	2	SP	SAND, reddish/brown, medium-coarse grained, poorly graded, no stain or odor
D	179.2	0.2	N	BH08B	3	3		abundant crystalline gypsur @ 3.5'
D	179.2	0.1	N	BH08C	4	4		TD @ 4' bgs

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1980-1
Laboratory Sample Delivery Group: 31403236.020.0129
Client Project/Site: JRU DI 1

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
2/24/2022 6:52:34 PM

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

Client: WSP USA Inc.
Project/Site: JRU DI 1

Laboratory Job ID: 890-1980-1
SDG: 31403236.020.0129

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1980-1
Project/Site: JRU DI 1 SDG: 31403236.020.0129

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

Job ID: 890-1980-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-1980-1

Receipt
The samples were received on 2/21/2022 10:14 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: SS01 (890-1980-1) and SS02 (890-1980-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS01 (890-1980-1), SS02 (890-1980-2), (890-1972-A-1-E), (890-1972-A-1-F MS) and (890-1972-A-1-G MSD). 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 DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

Client Sample ID: SS01

Lab Sample ID: 890-1980-1
Matrix: Solid
Date Collected: 02/15/22 13:40
Date Received: 02/21/22 10:14
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/22/22 15:21	02/23/22 16:09	1
Toluene	**0.00516**		0.00200		mg/Kg		02/22/22 15:21	02/23/22 16:09	1
Ethylbenzene	**0.00839**		0.00200		mg/Kg		02/22/22 15:21	02/23/22 16:09	1
m-Xylene & p-Xylene	**0.0299**		0.00399		mg/Kg		02/22/22 15:21	02/23/22 16:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/22/22 15:21	02/23/22 16:09	1
Xylenes, Total	**0.0299**		0.00399		mg/Kg		02/22/22 15:21	02/23/22 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*181*	*S1+*	*70 - 130*	*02/22/22 15:21*	*02/23/22 16:09*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*02/22/22 15:21*	*02/23/22 16:09*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0435**		0.00399		mg/Kg			02/24/22 17:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**750**		49.9		mg/Kg			02/23/22 09:21	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		02/22/22 09:05	02/22/22 17:11	1
Diesel Range Organics (Over C10-C28)	**750**		49.9		mg/Kg		02/22/22 09:05	02/22/22 17:11	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/22/22 09:05	02/22/22 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*69*	*S1-*	*70 - 130*	*02/22/22 09:05*	*02/22/22 17:11*	*1*
o-Terphenyl	*72*		*70 - 130*	*02/22/22 09:05*	*02/22/22 17:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13800**		248		mg/Kg			02/23/22 12:08	50

Client Sample ID: SS02

Lab Sample ID: 890-1980-2
Matrix: Solid
Date Collected: 02/15/22 13:45
Date Received: 02/21/22 10:14
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/22/22 15:21	02/23/22 16:37	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/22/22 15:21	02/23/22 16:37	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/22/22 15:21	02/23/22 16:37	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/22/22 15:21	02/23/22 16:37	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/22/22 15:21	02/23/22 16:37	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/22/22 15:21	02/23/22 16:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*185*	*S1+*	*70 - 130*	*02/22/22 15:21*	*02/23/22 16:37*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

Client Sample ID: SS02

Date Collected: 02/15/22 13:45
Date Received: 02/21/22 10:14
Sample Depth: 0.5

Lab Sample ID: 890-1980-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*02/22/22 15:21*	*02/23/22 16:37*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/24/22 17:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/23/22 09:21	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		02/22/22 09:05	02/22/22 17:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/22/22 09:05	02/22/22 17:31	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/22/22 09:05	02/22/22 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*69*	*S1-*	*70 - 130*	*02/22/22 09:05*	*02/22/22 17:31*	*1*
o-Terphenyl	*79*		*70 - 130*	*02/22/22 09:05*	*02/22/22 17:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14700**		252		mg/Kg			02/23/22 12:17	50

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

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)
880-11473-A-8-E MS	Matrix Spike	171 S1+	81
880-11473-A-8-F MSD	Matrix Spike Duplicate	170 S1+	82
890-1980-1	SS01	181 S1+	76
890-1980-2	SS02	185 S1+	73
LCS 880-20070/1-A	Lab Control Sample	175 S1+	88
LCSD 880-20070/2-A	Lab Control Sample Dup	160 S1+	90
MB 880-20024/5-A	Method Blank	120	73
MB 880-20070/5-A	Method Blank	118	71

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1972-A-1-F MS	Matrix Spike	70	60 S1-
890-1972-A-1-G MSD	Matrix Spike Duplicate	72	61 S1-
890-1980-1	SS01	69 S1-	72
890-1980-2	SS02	69 S1-	79
LCS 880-20026/2-A	Lab Control Sample	101	106
LCSD 880-20026/3-A	Lab Control Sample Dup	100	106
MB 880-20026/1-A	Method Blank	75	91

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-20024/5-A
Matrix: Solid
Analysis Batch: 20021

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20024

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/22/22 08:49	02/22/22 12:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/22/22 08:49	02/22/22 12:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/22/22 08:49	02/22/22 12:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/22/22 08:49	02/22/22 12:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/22/22 08:49	02/22/22 12:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/22/22 08:49	02/22/22 12:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*02/22/22 08:49*	*02/22/22 12:32*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*02/22/22 08:49*	*02/22/22 12:32*	*1*

Lab Sample ID: MB 880-20070/5-A
Matrix: Solid
Analysis Batch: 20021

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20070

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/22/22 15:21	02/23/22 09:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/22/22 15:21	02/23/22 09:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/22/22 15:21	02/23/22 09:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/22/22 15:21	02/23/22 09:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/22/22 15:21	02/23/22 09:15	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/22/22 15:21	02/23/22 09:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*02/22/22 15:21*	*02/23/22 09:15*	*1*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*02/22/22 15:21*	*02/23/22 09:15*	*1*

Lab Sample ID: LCS 880-20070/1-A
Matrix: Solid
Analysis Batch: 20021

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20070

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09229		mg/Kg		92	70 - 130		
Toluene			0.100	0.1031		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.1091		mg/Kg		109	70 - 130		
m-Xylene & p-Xylene			0.200	0.2323		mg/Kg		116	70 - 130		
o-Xylene			0.100	0.1211		mg/Kg		121	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*175*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: LCSD 880-20070/2-A
Matrix: Solid
Analysis Batch: 20021

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20070

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.08443		mg/Kg		84	70 - 130	9	35

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

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

Lab Sample ID: LCSD 880-20070/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20021 — **Prep Batch: 20070**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene			0.100	0.09693		mg/Kg		97	70 - 130	6	35
Ethylbenzene			0.100	0.1019		mg/Kg		102	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2146		mg/Kg		107	70 - 130	8	35
o-Xylene			0.100	0.1125		mg/Kg		112	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*160*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: 880-11473-A-8-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20021 — **Prep Batch: 20070**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.0998	0.1038		mg/Kg		104	70 - 130
Toluene	<0.00200	U	0.0998	0.1150		mg/Kg		115	70 - 130
Ethylbenzene	<0.00200	U	0.0998	0.1147		mg/Kg		115	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2364		mg/Kg		118	70 - 130
o-Xylene	<0.00200	U	0.0998	0.1185		mg/Kg		119	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*171*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*

Lab Sample ID: 880-11473-A-8-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20021 — **Prep Batch: 20070**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0992	0.07988		mg/Kg		81	70 - 130	26	35
Toluene	<0.00200	U	0.0992	0.09431		mg/Kg		95	70 - 130	20	35
Ethylbenzene	<0.00200	U	0.0992	0.09956		mg/Kg		100	70 - 130	14	35
m-Xylene & p-Xylene	<0.00401	U	0.198	0.2088		mg/Kg		105	70 - 130	12	35
o-Xylene	<0.00200	U	0.0992	0.1094		mg/Kg		110	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*170*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*

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

Lab Sample ID: MB 880-20026/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20030 — **Prep Batch: 20026**

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		02/22/22 09:05	02/22/22 11:45	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

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

Lab Sample ID: MB 880-20026/1-A
Matrix: Solid
Analysis Batch: 20030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20026

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/22/22 09:05	02/22/22 11:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/22/22 09:05	02/22/22 11:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*75*		*70 - 130*	*02/22/22 09:05*	*02/22/22 11:45*	*1*
o-Terphenyl	*91*		*70 - 130*	*02/22/22 09:05*	*02/22/22 11:45*	*1*

Lab Sample ID: LCS 880-20026/2-A
Matrix: Solid
Analysis Batch: 20030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20026

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	849.9		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1050		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: LCSD 880-20026/3-A
Matrix: Solid
Analysis Batch: 20030

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20026

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	802.5		mg/Kg		80	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	986.2		mg/Kg		99	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: 890-1972-A-1-F MS
Matrix: Solid
Analysis Batch: 20030

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20026

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1225		mg/Kg		123	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	1240		mg/Kg		122	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*70*		*70 - 130*
o-Terphenyl	*60*	*S1-*	*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

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

Lab Sample ID: 890-1972-A-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20030 — **Prep Batch: 20026**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1256		mg/Kg		126	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1271		mg/Kg		126	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*72*		*70 - 130*
o-Terphenyl	*61*	*S1-*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20032/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20033

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/22/22 10:15	1

Lab Sample ID: LCS 880-20032/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20033

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	247.7		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-20032/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20033

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	247.4		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-1914-A-4-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20033

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	808	F1	248	1022	F1	mg/Kg		87	90 - 110		

Lab Sample ID: 890-1914-A-4-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20033

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	808	F1	248	1016	F1	mg/Kg		84	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

GC VOA

Analysis Batch: 20021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1980-1	SS01	Total/NA	Solid	8021B	20070
890-1980-2	SS02	Total/NA	Solid	8021B	20070
MB 880-20024/5-A	Method Blank	Total/NA	Solid	8021B	20024
MB 880-20070/5-A	Method Blank	Total/NA	Solid	8021B	20070
LCS 880-20070/1-A	Lab Control Sample	Total/NA	Solid	8021B	20070
LCSD 880-20070/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	20070
880-11473-A-8-E MS	Matrix Spike	Total/NA	Solid	8021B	20070
880-11473-A-8-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	20070

Prep Batch: 20024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-20024/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 20070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1980-1	SS01	Total/NA	Solid	5035	
890-1980-2	SS02	Total/NA	Solid	5035	
MB 880-20070/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-20070/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-20070/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11473-A-8-E MS	Matrix Spike	Total/NA	Solid	5035	
880-11473-A-8-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 20265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1980-1	SS01	Total/NA	Solid	Total BTEX	
890-1980-2	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 20026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1980-1	SS01	Total/NA	Solid	8015NM Prep	
890-1980-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-20026/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-20026/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-20026/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1972-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1972-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 20030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1980-1	SS01	Total/NA	Solid	8015B NM	20026
890-1980-2	SS02	Total/NA	Solid	8015B NM	20026
MB 880-20026/1-A	Method Blank	Total/NA	Solid	8015B NM	20026
LCS 880-20026/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	20026
LCSD 880-20026/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	20026
890-1972-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	20026
890-1972-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	20026

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

GC Semi VOA

Analysis Batch: 20124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1980-1	SS01	Total/NA	Solid	8015 NM	
890-1980-2	SS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 20032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1980-1	SS01	Soluble	Solid	DI Leach	
890-1980-2	SS02	Soluble	Solid	DI Leach	
MB 880-20032/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20032/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20032/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1914-A-4-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1914-A-4-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 20033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1980-1	SS01	Soluble	Solid	300.0	20032
890-1980-2	SS02	Soluble	Solid	300.0	20032
MB 880-20032/1-A	Method Blank	Soluble	Solid	300.0	20032
LCS 880-20032/2-A	Lab Control Sample	Soluble	Solid	300.0	20032
LCSD 880-20032/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20032
890-1914-A-4-F MS	Matrix Spike	Soluble	Solid	300.0	20032
890-1914-A-4-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20032

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

Client Sample ID: SS01

Lab Sample ID: 890-1980-1

Date Collected: 02/15/22 13:40
Matrix: Solid
Date Received: 02/21/22 10:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20070	02/22/22 15:21	MR	XEN MID
Total/NA	Analysis	8021B		1	20021	02/23/22 16:09	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	20265	02/24/22 17:03	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	20124	02/23/22 09:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20026	02/22/22 09:05	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20030	02/22/22 17:11	AJ	XEN MID
Soluble	Leach	DI Leach			20032	02/22/22 12:00	CH	XEN MID
Soluble	Analysis	300.0		50	20033	02/23/22 12:08	CH	XEN MID

Client Sample ID: SS02

Lab Sample ID: 890-1980-2

Date Collected: 02/15/22 13:45
Matrix: Solid
Date Received: 02/21/22 10:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20070	02/22/22 15:21	MR	XEN MID
Total/NA	Analysis	8021B		1	20021	02/23/22 16:37	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	20265	02/24/22 17:03	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	20124	02/23/22 09:21	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20026	02/22/22 09:05	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20030	02/22/22 17:31	AJ	XEN MID
Soluble	Leach	DI Leach			20032	02/22/22 12:00	CH	XEN MID
Soluble	Analysis	300.0		50	20033	02/23/22 12:17	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1980-1
Project/Site: JRU DI 1 SDG: 31403236.020.0129

Laboratory: Eurofins Midland

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 890-1980-1
Project/Site: JRU DI 1 SDG: 31403236.020.0129

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-1980-1
SDG: 31403236.020.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1980-1	SS01	Solid	02/15/22 13:40	02/21/22 10:14	0.5
890-1980-2	SS02	Solid	02/15/22 13:45	02/21/22 10:14	0.5

Chain of Custody

XENCO LABORATORIES

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA Inc.	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:	Alexis.Castro@wsp.com; Tacoma.Morrissey@wsp.com

Work Order Comments

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

Project Name:	JRU DI 1	Turn Around	
Project Number:	31403236.020.0129	Routine ☐	
P.O. Number:	12/20/2021	Rush: 24hr	
Sampler's Name:	Alexis Castro	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	1.6/1.4	Thermometer ID	IR-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:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01	S	02/15/2022	1340	0.5'	1	x	x	x
SS02	S	02/15/2022	1345	0.5'	1	x	x	x

ANALYSIS REQUEST

890-1980 Chain of Custody

Work Order Notes

API: 30-015-47514
CC: 1082551001

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

Sample Comments

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		2.21.22 1014	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1980-1
SDG Number: 31403236.020.0129

Login Number: 1980
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1980-1
SDG Number: 31403236.020.0129

Login Number: 1980
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/22/22 02:59 PM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2031-1
Laboratory Sample Delivery Group: 31403236.020.0129
Client Project/Site: JRU DI 1

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
3/8/2022 12:28:29 PM

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

Client: WSP USA Inc.
Project/Site: JRU DI 1

Laboratory Job ID: 890-2031-1
SDG: 31403236.020.0129

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-2031-1
Project/Site: JRU DI 1 SDG: 31403236.020.0129

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Job ID: 890-2031-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2031-1

Receipt
The samples were received on 3/1/2022 9:19 AM. 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 4.4°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
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 DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Client Sample ID: FS01

Lab Sample ID: 890-2031-1
Matrix: Solid
Date Collected: 02/28/22 12:15
Date Received: 03/01/22 09:19
Sample Depth: 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 17:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 17:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 17:01	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		03/04/22 07:45	03/04/22 17:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 17:01	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		03/04/22 07:45	03/04/22 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*03/04/22 07:45*	*03/04/22 17:01*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/04/22 07:45*	*03/04/22 17:01*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			03/06/22 20:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			03/02/22 17:02	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		03/02/22 08:58	03/02/22 15:23	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		03/02/22 08:58	03/02/22 15:23	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		03/02/22 08:58	03/02/22 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*03/02/22 08:58*	*03/02/22 15:23*	*1*
o-Terphenyl	*114*		*70 - 130*	*03/02/22 08:58*	*03/02/22 15:23*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**529**		4.99		mg/Kg			03/07/22 11:15	1

Client Sample ID: FS02

Lab Sample ID: 890-2031-2
Matrix: Solid
Date Collected: 02/28/22 12:25
Date Received: 03/01/22 09:19
Sample Depth: 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:45	03/04/22 17:21	1
Toluene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:45	03/04/22 17:21	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:45	03/04/22 17:21	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		03/04/22 07:45	03/04/22 17:21	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:45	03/04/22 17:21	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		03/04/22 07:45	03/04/22 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*03/04/22 07:45*	*03/04/22 17:21*	*1*

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Client Sample ID: FS02

Lab Sample ID: 890-2031-2
Matrix: Solid
Date Collected: 02/28/22 12:25
Date Received: 03/01/22 09:19
Sample Depth: 1.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/04/22 07:45*	*03/04/22 17:21*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			03/06/22 20:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/02/22 17:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/02/22 08:58	03/02/22 15:44	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/02/22 08:58	03/02/22 15:44	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/02/22 08:58	03/02/22 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*98*		*70 - 130*	*03/02/22 08:58*	*03/02/22 15:44*	*1*
o-Terphenyl	*98*		*70 - 130*	*03/02/22 08:58*	*03/02/22 15:44*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**268**		4.97	mg/Kg			03/07/22 11:27	1

Client Sample ID: FS03

Lab Sample ID: 890-2031-3
Matrix: Solid
Date Collected: 02/28/22 12:35
Date Received: 03/01/22 09:19
Sample Depth: 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/04/22 07:45	03/04/22 17:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/04/22 07:45	03/04/22 17:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/04/22 07:45	03/04/22 17:42	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		03/04/22 07:45	03/04/22 17:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/04/22 07:45	03/04/22 17:42	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/04/22 07:45	03/04/22 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*03/04/22 07:45*	*03/04/22 17:42*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/04/22 07:45*	*03/04/22 17:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			03/06/22 20:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/02/22 17:02	1

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Client Sample ID: FS03

Lab Sample ID: 890-2031-3
Matrix: Solid
Date Collected: 02/28/22 12:35
Date Received: 03/01/22 09:19
Sample Depth: 1.5

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		03/02/22 08:58	03/02/22 16:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/02/22 08:58	03/02/22 16:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/02/22 08:58	03/02/22 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*03/02/22 08:58*	*03/02/22 16:05*	*1*
o-Terphenyl	*108*		*70 - 130*	*03/02/22 08:58*	*03/02/22 16:05*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**147**		5.00		mg/Kg			03/07/22 11:39	1

Client Sample ID: FS04

Lab Sample ID: 890-2031-4
Matrix: Solid
Date Collected: 02/28/22 12:45
Date Received: 03/01/22 09:19
Sample Depth: 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:45	03/04/22 18:02	1
Toluene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:45	03/04/22 18:02	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:45	03/04/22 18:02	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		03/04/22 07:45	03/04/22 18:02	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:45	03/04/22 18:02	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		03/04/22 07:45	03/04/22 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*03/04/22 07:45*	*03/04/22 18:02*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*03/04/22 07:45*	*03/04/22 18:02*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			03/06/22 20:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/02/22 17:02	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/02/22 08:58	03/02/22 16:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/02/22 08:58	03/02/22 16:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/02/22 08:58	03/02/22 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*03/02/22 08:58*	*03/02/22 16:26*	*1*
o-Terphenyl	*99*		*70 - 130*	*03/02/22 08:58*	*03/02/22 16:26*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Client Sample ID: FS04

Lab Sample ID: 890-2031-4
Matrix: Solid
Date Collected: 02/28/22 12:45
Date Received: 03/01/22 09:19
Sample Depth: 1.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3180		99.2		mg/Kg			03/05/22 19:39	20

Client Sample ID: BH07

Lab Sample ID: 890-2031-5
Matrix: Solid
Date Collected: 02/28/22 13:35
Date Received: 03/01/22 09:19
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 18:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 18:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 18:23	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/04/22 07:45	03/04/22 18:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 18:23	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/04/22 07:45	03/04/22 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*03/04/22 07:45*	*03/04/22 18:23*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*03/04/22 07:45*	*03/04/22 18:23*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			03/06/22 20:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			03/02/22 17:02	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/02/22 08:58	03/02/22 16:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/02/22 08:58	03/02/22 16:46	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/02/22 08:58	03/02/22 16:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*03/02/22 08:58*	*03/02/22 16:46*	*1*
o-Terphenyl	*108*		*70 - 130*	*03/02/22 08:58*	*03/02/22 16:46*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	276		4.96		mg/Kg			03/07/22 22:09	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Client Sample ID: BH07C

Lab Sample ID: 890-2031-6
Matrix: Solid
Date Collected: 02/28/22 14:00
Date Received: 03/01/22 09:19
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		03/04/22 07:45	03/04/22 18:43	1
Toluene	<0.00201	U	0.00201		mg/Kg		03/04/22 07:45	03/04/22 18:43	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		03/04/22 07:45	03/04/22 18:43	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		03/04/22 07:45	03/04/22 18:43	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		03/04/22 07:45	03/04/22 18:43	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		03/04/22 07:45	03/04/22 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*03/04/22 07:45*	*03/04/22 18:43*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*03/04/22 07:45*	*03/04/22 18:43*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			03/06/22 20:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			03/02/22 17:02	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/02/22 08:58	03/02/22 17:07	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/02/22 08:58	03/02/22 17:07	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/02/22 08:58	03/02/22 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*03/02/22 08:58*	*03/02/22 17:07*	*1*
o-Terphenyl	*100*		*70 - 130*	*03/02/22 08:58*	*03/02/22 17:07*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**98.3**		4.95		mg/Kg			03/08/22 11:59	1

Client Sample ID: BH08

Lab Sample ID: 890-2031-7
Matrix: Solid
Date Collected: 02/28/22 15:05
Date Received: 03/01/22 09:19
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:45	03/04/22 19:04	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:45	03/04/22 19:04	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:45	03/04/22 19:04	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/04/22 07:45	03/04/22 19:04	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:45	03/04/22 19:04	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/04/22 07:45	03/04/22 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*03/04/22 07:45*	*03/04/22 19:04*	*1*

Client Sample Results

Client: WSP USA Inc. Job ID: 890-2031-1
Project/Site: JRU DI 1 SDG: 31403236.020.0129

Client Sample ID: BH08 Lab Sample ID: 890-2031-7

Date Collected: 02/28/22 15:05 **Matrix: Solid**
Date Received: 03/01/22 09:19
Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/04/22 07:45*	*03/04/22 19:04*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/06/22 20:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			03/02/22 17:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		03/02/22 08:58	03/02/22 17:28	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		03/02/22 08:58	03/02/22 17:28	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/02/22 08:58	03/02/22 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*102*		*70 - 130*	*03/02/22 08:58*	*03/02/22 17:28*	*1*
o-Terphenyl	*101*		*70 - 130*	*03/02/22 08:58*	*03/02/22 17:28*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**197**		5.00	mg/Kg			03/08/22 12:05	1

Client Sample ID: BH08C Lab Sample ID: 890-2031-8

Date Collected: 02/28/22 15:25 **Matrix: Solid**
Date Received: 03/01/22 09:19
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/04/22 07:45	03/04/22 19:24	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/04/22 07:45	03/04/22 19:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/04/22 07:45	03/04/22 19:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/04/22 07:45	03/04/22 19:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/04/22 07:45	03/04/22 19:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/04/22 07:45	03/04/22 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*03/04/22 07:45*	*03/04/22 19:24*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/04/22 07:45*	*03/04/22 19:24*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			03/06/22 20:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/02/22 17:02	1

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Client Sample ID: BH08C

Date Collected: 02/28/22 15:25
Date Received: 03/01/22 09:19
Sample Depth: 4

Lab Sample ID: 890-2031-8

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	<49.9	U	49.9		mg/Kg		03/02/22 08:58	03/02/22 17:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/02/22 08:58	03/02/22 17:49	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/02/22 08:58	03/02/22 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*03/02/22 08:58*	*03/02/22 17:49*	*1*
o-Terphenyl	*100*		*70 - 130*	*03/02/22 08:58*	*03/02/22 17:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**281**		4.99		mg/Kg			03/08/22 12:11	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

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)
880-11741-A-1-H MS	Matrix Spike	105	102
880-11741-A-1-I MSD	Matrix Spike Duplicate	104	102
890-2031-1	FS01	102	98
890-2031-2	FS02	102	98
890-2031-3	FS03	105	98
890-2031-4	FS04	110	102
890-2031-5	BH07	102	97
890-2031-6	BH07C	103	97
890-2031-7	BH08	102	98
890-2031-8	BH08C	104	98
LCS 880-20668/1-A	Lab Control Sample	97	101
LCSD 880-20668/2-A	Lab Control Sample Dup	99	102
MB 880-20668/5-A	Method Blank	104	95

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)
880-11908-A-1-B MS	Matrix Spike	107	105
880-11908-A-1-C MSD	Matrix Spike Duplicate	93	87
890-2031-1	FS01	109	114
890-2031-2	FS02	98	98
890-2031-3	FS03	104	108
890-2031-4	FS04	98	99
890-2031-5	BH07	107	108
890-2031-6	BH07C	101	100
890-2031-7	BH08	102	101
890-2031-8	BH08C	102	100
LCS 880-20659/2-A	Lab Control Sample	104	97
LCSD 880-20659/3-A	Lab Control Sample Dup	107	95
MB 880-20659/1-A	Method Blank	101	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-20668/5-A
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20668

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/04/22 07:45	03/04/22 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*03/04/22 07:45*	*03/04/22 11:31*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*03/04/22 07:45*	*03/04/22 11:31*	*1*

Lab Sample ID: LCS 880-20668/1-A
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20668

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1062		mg/Kg		106	70 - 130		
Toluene			0.100	0.1031		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.09905		mg/Kg		99	70 - 130		
m-Xylene & p-Xylene			0.200	0.2035		mg/Kg		102	70 - 130		
o-Xylene			0.100	0.09826		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-20668/2-A
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20668

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1116		mg/Kg		112	70 - 130	5	35
Toluene			0.100	0.1082		mg/Kg		108	70 - 130	5	35
Ethylbenzene			0.100	0.1035		mg/Kg		104	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2121		mg/Kg		106	70 - 130	4	35
o-Xylene			0.100	0.1025		mg/Kg		102	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-11741-A-1-H MS
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20668

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.0988	0.09517		mg/Kg		96	70 - 130		
Toluene	<0.00199	U	0.0988	0.09286		mg/Kg		94	70 - 130		

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

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

Lab Sample ID: 880-11741-A-1-H MS
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20668

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U	0.0988	0.08880		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1824		mg/Kg		92	70 - 130
o-Xylene	<0.00199	U	0.0988	0.08865		mg/Kg		90	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-11741-A-1-I MSD
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20668

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	0.09169		mg/Kg		92	70 - 130	4	35
Toluene	<0.00199	U	0.100	0.08797		mg/Kg		87	70 - 130	5	35
Ethylbenzene	<0.00199	U	0.100	0.08420		mg/Kg		84	70 - 130	5	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1735		mg/Kg		87	70 - 130	5	35
o-Xylene	<0.00199	U	0.100	0.08423		mg/Kg		84	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

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

Lab Sample ID: MB 880-20659/1-A
Matrix: Solid
Analysis Batch: 20655

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20659

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		03/02/22 08:58	03/02/22 09:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/02/22 08:58	03/02/22 09:04	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/02/22 08:58	03/02/22 09:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*03/02/22 08:58*	*03/02/22 09:04*	*1*
o-Terphenyl	*110*		*70 - 130*	*03/02/22 08:58*	*03/02/22 09:04*	*1*

Lab Sample ID: LCS 880-20659/2-A
Matrix: Solid
Analysis Batch: 20655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20659

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1064		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)			1000	884.1		mg/Kg		88	70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

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

Lab Sample ID: LCS 880-20659/2-A
Matrix: Solid
Analysis Batch: 20655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20659

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: LCSD 880-20659/3-A
Matrix: Solid
Analysis Batch: 20655

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20659

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1088		mg/Kg		109	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	892.2		mg/Kg		89	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 880-11908-A-1-B MS
Matrix: Solid
Analysis Batch: 20655

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20659

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1050		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	949.8		mg/Kg		95	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 880-11908-A-1-C MSD
Matrix: Solid
Analysis Batch: 20655

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20659

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	973.2		mg/Kg		96	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	800.0		mg/Kg		80	70 - 130	17	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	87		70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20806/1-A
Matrix: Solid
Analysis Batch: 20936

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			03/07/22 19:36	1

Lab Sample ID: LCS 880-20806/2-A
Matrix: Solid
Analysis Batch: 20936

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			200	201.4		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-20806/3-A
Matrix: Solid
Analysis Batch: 20936

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			200	203.3		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 880-11928-A-8-D MS
Matrix: Solid
Analysis Batch: 20936

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	104		250	353.8		mg/Kg		100	90 - 110		

Lab Sample ID: 880-11928-A-8-E MSD
Matrix: Solid
Analysis Batch: 20936

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	104		250	364.0		mg/Kg		104	90 - 110	3	20

Lab Sample ID: MB 880-20681/1-A
Matrix: Solid
Analysis Batch: 20963

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			03/05/22 13:14	1

Lab Sample ID: LCS 880-20681/2-A
Matrix: Solid
Analysis Batch: 20963

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	254.8		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-20681/3-A
Matrix: Solid
Analysis Batch: 20963

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	257.4		mg/Kg		103	90 - 110	1	20

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-2030-A-7-D MS
Matrix: Solid
Analysis Batch: 20963

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	77.5		250	316.5		mg/Kg		96	90 - 110		

Lab Sample ID: 890-2030-A-7-E MSD
Matrix: Solid
Analysis Batch: 20963

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	77.5		250	321.4		mg/Kg		98	90 - 110	2	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

GC VOA

Prep Batch: 20668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-1	FS01	Total/NA	Solid	5035	
890-2031-2	FS02	Total/NA	Solid	5035	
890-2031-3	FS03	Total/NA	Solid	5035	
890-2031-4	FS04	Total/NA	Solid	5035	
890-2031-5	BH07	Total/NA	Solid	5035	
890-2031-6	BH07C	Total/NA	Solid	5035	
890-2031-7	BH08	Total/NA	Solid	5035	
890-2031-8	BH08C	Total/NA	Solid	5035	
MB 880-20668/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-20668/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-20668/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11741-A-1-H MS	Matrix Spike	Total/NA	Solid	5035	
880-11741-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 20854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-1	FS01	Total/NA	Solid	8021B	20668
890-2031-2	FS02	Total/NA	Solid	8021B	20668
890-2031-3	FS03	Total/NA	Solid	8021B	20668
890-2031-4	FS04	Total/NA	Solid	8021B	20668
890-2031-5	BH07	Total/NA	Solid	8021B	20668
890-2031-6	BH07C	Total/NA	Solid	8021B	20668
890-2031-7	BH08	Total/NA	Solid	8021B	20668
890-2031-8	BH08C	Total/NA	Solid	8021B	20668
MB 880-20668/5-A	Method Blank	Total/NA	Solid	8021B	20668
LCS 880-20668/1-A	Lab Control Sample	Total/NA	Solid	8021B	20668
LCSD 880-20668/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	20668
880-11741-A-1-H MS	Matrix Spike	Total/NA	Solid	8021B	20668
880-11741-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	20668

Analysis Batch: 20993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-1	FS01	Total/NA	Solid	Total BTEX	
890-2031-2	FS02	Total/NA	Solid	Total BTEX	
890-2031-3	FS03	Total/NA	Solid	Total BTEX	
890-2031-4	FS04	Total/NA	Solid	Total BTEX	
890-2031-5	BH07	Total/NA	Solid	Total BTEX	
890-2031-6	BH07C	Total/NA	Solid	Total BTEX	
890-2031-7	BH08	Total/NA	Solid	Total BTEX	
890-2031-8	BH08C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 20655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-1	FS01	Total/NA	Solid	8015B NM	20659
890-2031-2	FS02	Total/NA	Solid	8015B NM	20659
890-2031-3	FS03	Total/NA	Solid	8015B NM	20659
890-2031-4	FS04	Total/NA	Solid	8015B NM	20659
890-2031-5	BH07	Total/NA	Solid	8015B NM	20659
890-2031-6	BH07C	Total/NA	Solid	8015B NM	20659

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

GC Semi VOA (Continued)

Analysis Batch: 20655 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-7	BH08	Total/NA	Solid	8015B NM	20659
890-2031-8	BH08C	Total/NA	Solid	8015B NM	20659
MB 880-20659/1-A	Method Blank	Total/NA	Solid	8015B NM	20659
LCS 880-20659/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	20659
LCSD 880-20659/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	20659
880-11908-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	20659
880-11908-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	20659

Prep Batch: 20659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-1	FS01	Total/NA	Solid	8015NM Prep	
890-2031-2	FS02	Total/NA	Solid	8015NM Prep	
890-2031-3	FS03	Total/NA	Solid	8015NM Prep	
890-2031-4	FS04	Total/NA	Solid	8015NM Prep	
890-2031-5	BH07	Total/NA	Solid	8015NM Prep	
890-2031-6	BH07C	Total/NA	Solid	8015NM Prep	
890-2031-7	BH08	Total/NA	Solid	8015NM Prep	
890-2031-8	BH08C	Total/NA	Solid	8015NM Prep	
MB 880-20659/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-20659/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-20659/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-11908-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-11908-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 20724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-1	FS01	Total/NA	Solid	8015 NM	
890-2031-2	FS02	Total/NA	Solid	8015 NM	
890-2031-3	FS03	Total/NA	Solid	8015 NM	
890-2031-4	FS04	Total/NA	Solid	8015 NM	
890-2031-5	BH07	Total/NA	Solid	8015 NM	
890-2031-6	BH07C	Total/NA	Solid	8015 NM	
890-2031-7	BH08	Total/NA	Solid	8015 NM	
890-2031-8	BH08C	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 20681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-1	FS01	Soluble	Solid	DI Leach	
890-2031-2	FS02	Soluble	Solid	DI Leach	
890-2031-3	FS03	Soluble	Solid	DI Leach	
890-2031-4	FS04	Soluble	Solid	DI Leach	
MB 880-20681/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20681/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20681/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2030-A-7-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2030-A-7-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

HPLC/IC

Leach Batch: 20806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-5	BH07	Soluble	Solid	DI Leach	
890-2031-6	BH07C	Soluble	Solid	DI Leach	
890-2031-7	BH08	Soluble	Solid	DI Leach	
890-2031-8	BH08C	Soluble	Solid	DI Leach	
MB 880-20806/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20806/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20806/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11928-A-8-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11928-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 20936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-5	BH07	Soluble	Solid	300.0	20806
890-2031-6	BH07C	Soluble	Solid	300.0	20806
890-2031-7	BH08	Soluble	Solid	300.0	20806
890-2031-8	BH08C	Soluble	Solid	300.0	20806
MB 880-20806/1-A	Method Blank	Soluble	Solid	300.0	20806
LCS 880-20806/2-A	Lab Control Sample	Soluble	Solid	300.0	20806
LCSD 880-20806/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20806
880-11928-A-8-D MS	Matrix Spike	Soluble	Solid	300.0	20806
880-11928-A-8-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20806

Analysis Batch: 20963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2031-1	FS01	Soluble	Solid	300.0	20681
890-2031-2	FS02	Soluble	Solid	300.0	20681
890-2031-3	FS03	Soluble	Solid	300.0	20681
890-2031-4	FS04	Soluble	Solid	300.0	20681
MB 880-20681/1-A	Method Blank	Soluble	Solid	300.0	20681
LCS 880-20681/2-A	Lab Control Sample	Soluble	Solid	300.0	20681
LCSD 880-20681/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20681
890-2030-A-7-D MS	Matrix Spike	Soluble	Solid	300.0	20681
890-2030-A-7-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20681

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Client Sample ID: FS01

Lab Sample ID: 890-2031-1
Matrix: Solid
Date Collected: 02/28/22 12:15
Date Received: 03/01/22 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	20854	03/04/22 17:01	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	20993	03/06/22 20:58	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	20724	03/02/22 17:02	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20659	03/02/22 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20655	03/02/22 15:23	AJ	XEN MID
Soluble	Leach	DI Leach			20681	03/02/22 10:50	CH	XEN MID
Soluble	Analysis	300.0		1	20963	03/07/22 11:15	SC	XEN MID

Client Sample ID: FS02

Lab Sample ID: 890-2031-2
Matrix: Solid
Date Collected: 02/28/22 12:25
Date Received: 03/01/22 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	20854	03/04/22 17:21	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	20993	03/06/22 20:58	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	20724	03/02/22 17:02	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20659	03/02/22 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20655	03/02/22 15:44	AJ	XEN MID
Soluble	Leach	DI Leach			20681	03/02/22 10:50	CH	XEN MID
Soluble	Analysis	300.0		1	20963	03/07/22 11:27	SC	XEN MID

Client Sample ID: FS03

Lab Sample ID: 890-2031-3
Matrix: Solid
Date Collected: 02/28/22 12:35
Date Received: 03/01/22 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	20854	03/04/22 17:42	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	20993	03/06/22 20:58	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	20724	03/02/22 17:02	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20659	03/02/22 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20655	03/02/22 16:05	AJ	XEN MID
Soluble	Leach	DI Leach			20681	03/02/22 10:50	CH	XEN MID
Soluble	Analysis	300.0		1	20963	03/07/22 11:39	SC	XEN MID

Client Sample ID: FS04

Lab Sample ID: 890-2031-4
Matrix: Solid
Date Collected: 02/28/22 12:45
Date Received: 03/01/22 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	20854	03/04/22 18:02	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	20993	03/06/22 20:58	AJ	XEN MID

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-2031-1
Project/Site: JRU DI 1 SDG: 31403236.020.0129

Client Sample ID: FS04 Lab Sample ID: 890-2031-4

Date Collected: 02/28/22 12:45 **Matrix: Solid**
Date Received: 03/01/22 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	20724	03/02/22 17:02	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20659	03/02/22 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20655	03/02/22 16:26	AJ	XEN MID
Soluble	Leach	DI Leach			20681	03/02/22 10:50	CH	XEN MID
Soluble	Analysis	300.0		20	20963	03/05/22 19:39	SC	XEN MID

Client Sample ID: BH07 Lab Sample ID: 890-2031-5

Date Collected: 02/28/22 13:35 **Matrix: Solid**
Date Received: 03/01/22 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	20854	03/04/22 18:23	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	20993	03/06/22 20:58	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	20724	03/02/22 17:02	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20659	03/02/22 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20655	03/02/22 16:46	AJ	XEN MID
Soluble	Leach	DI Leach			20806	03/03/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		1	20936	03/07/22 22:09	CH	XEN MID

Client Sample ID: BH07C Lab Sample ID: 890-2031-6

Date Collected: 02/28/22 14:00 **Matrix: Solid**
Date Received: 03/01/22 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	20854	03/04/22 18:43	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	20993	03/06/22 20:58	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	20724	03/02/22 17:02	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20659	03/02/22 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20655	03/02/22 17:07	AJ	XEN MID
Soluble	Leach	DI Leach			20806	03/03/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		1	20936	03/08/22 11:59	CH	XEN MID

Client Sample ID: BH08 Lab Sample ID: 890-2031-7

Date Collected: 02/28/22 15:05 **Matrix: Solid**
Date Received: 03/01/22 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	20854	03/04/22 19:04	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	20993	03/06/22 20:58	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	20724	03/02/22 17:02	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20659	03/02/22 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20655	03/02/22 17:28	AJ	XEN MID

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Client Sample ID: BH08

Date Collected: 02/28/22 15:05
Date Received: 03/01/22 09:19

Lab Sample ID: 890-2031-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			20806	03/03/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		1	20936	03/08/22 12:05	CH	XEN MID

Client Sample ID: BH08C

Date Collected: 02/28/22 15:25
Date Received: 03/01/22 09:19

Lab Sample ID: 890-2031-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	20854	03/04/22 19:24	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	20993	03/06/22 20:58	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	20724	03/02/22 17:02	AJ	XEN MID
Total/NA	Prep	8015NM Prep			20659	03/02/22 08:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1	20655	03/02/22 17:49	AJ	XEN MID
Soluble	Leach	DI Leach			20806	03/03/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		1	20936	03/08/22 12:11	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-2031-1
Project/Site: JRU DI 1 SDG: 31403236.020.0129

Laboratory: Eurofins Midland

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 890-2031-1
Project/Site: JRU DI 1 SDG: 31403236.020.0129

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 890-2031-1
SDG: 31403236.020.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2031-1	FS01	Solid	02/28/22 12:15	03/01/22 09:19	1.5
890-2031-2	FS02	Solid	02/28/22 12:25	03/01/22 09:19	1.5
890-2031-3	FS03	Solid	02/28/22 12:35	03/01/22 09:19	1.5
890-2031-4	FS04	Solid	02/28/22 12:45	03/01/22 09:19	1.5
890-2031-5	BH07	Solid	02/28/22 13:35	03/01/22 09:19	1
890-2031-6	BH07C	Solid	02/28/22 14:00	03/01/22 09:19	4
890-2031-7	BH08	Solid	02/28/22 15:05	03/01/22 09:19	2
890-2031-8	BH08C	Solid	02/28/22 15:25	03/01/22 09:19	4

Chain of Custody

XENCO LABORATORIES

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

Work Order No: _____

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3/8/2022

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA Inc.	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:		Alexis.Castro@wsp.com; Tacoma.Morrissey@wsp.com

Work Order Comments

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

Project Name:	JRU DI 1	Turn Around	
Project Number:	31403236.020.0129	Routine	☑
P.O. Number:	12/20/2021	Rush:	
Sampler's Name:	Alexis Castro	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	~~Yes~~ No	
Temperature (°C):	4.6 / 4.4	Thermometer ID		
~~Received Intact:~~	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS01	S	02/28/2022	1215	1.5'	1	x	x	x
FS02	S	02/28/2022	1225	1.5'	1	x	x	x
FS03	S	02/28/2022	1235	1.5'	1	x	x	x
FS04	S	02/28/2022	1245	1.5'	1	x	x	x

890-2031 Chain of Custody

Work Order Notes

API: 30-015-47514
CC: 1082551001

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

Sample Comments

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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			3/01/22	2		3/1/22 9:19
3				4		
5				6		

Revised Date 051418 Rev 2018 1

Chain of Custody

XENCO LABORATORIES

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

Work Order No: _____

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3/8/2022

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA Inc.	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:	Alexis.Castro@wsp.com; Tacoma.Morrissey@wsp.com

Work Order Comments

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

Project Name:	JRU DI 1	Turn Around	
Project Number:	31403236.020.0129	Routine	☑
P.O. Number:	12/20/2021	Rush:	
Sampler's Name:	Alexis Castro	Due Date:	

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

ANALYSIS REQUEST

Work Order Notes

API: 30-015-47514
CC: 1082551001

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
BH07	S	02/28/2022	1335	1'	1	x	x	x	
BH07C	S	02/28/2022	1400	4'	1	x	x	x	
BH08A	S	02/28/2022	1505	2'	1	x	x	x	
BH08C	S	02/28/2022	1525	4'	1	x	x	x	

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			3/1/22	2			3/1/22 9:19
3				4			
5				6			

Revised Date 051418 Rev 2018 1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-2031-1
SDG Number: 31403236.020.0129

Login Number: 2031
List Number: 1
Creator: Olivas, Nathaniel

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-2031-1
SDG Number: 31403236.020.0129

Login Number: 2031
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 03/02/22 11:22 AM

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

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-11739-1
Laboratory Sample Delivery Group: 32.37988,-103.88687
Client Project/Site: JRU D1 1

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
3/7/2022 9:17:37 PM

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

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

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

Client: WSP USA Inc.
Project/Site: JRU D1 1

Laboratory Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-11739-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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.
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: 880-11739-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Job ID: 880-11739-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-11739-1

Receipt
The samples were received on 2/25/2022 2:58 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 5.4°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-20669 and analytical batch 880-20859 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
Method TX_1005: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-20369 and analytical batch 880-20378 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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 D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 02

Lab Sample ID: 880-11739-1
Matrix: Solid
Date Collected: 02/24/22 11:15
Date Received: 02/25/22 14:58
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:30	03/04/22 16:08	1
Toluene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:30	03/04/22 16:08	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:30	03/04/22 16:08	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		03/04/22 07:30	03/04/22 16:08	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:30	03/04/22 16:08	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		03/04/22 07:30	03/04/22 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*03/04/22 07:30*	*03/04/22 16:08*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*03/04/22 07:30*	*03/04/22 16:08*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			03/04/22 16:35	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U F1	50.0		mg/Kg		02/25/22 17:26	02/26/22 22:54	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/26/22 22:54	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/26/22 22:54	1
Total Petroleum Hydrocarbons (C6-C35)	<50.0	U	50.0		mg/Kg			02/28/22 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*105*		*70 - 130*	*02/25/22 17:26*	*02/26/22 22:54*	*1*
o-Terphenyl (Surr)	*101*		*70 - 130*	*02/25/22 17:26*	*02/26/22 22:54*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2150**		49.5		mg/Kg			03/03/22 13:48	10

Client Sample ID: BH 02 C

Lab Sample ID: 880-11739-2
Matrix: Solid
Date Collected: 02/24/22 11:33
Date Received: 02/25/22 14:58
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 16:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 16:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 16:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/04/22 07:30	03/04/22 16:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 16:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/04/22 07:30	03/04/22 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*03/04/22 07:30*	*03/04/22 16:29*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*03/04/22 07:30*	*03/04/22 16:29*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 02 C

Date Collected: 02/24/22 11:33
Date Received: 02/25/22 14:58
Sample Depth: 4'

Lab Sample ID: 880-11739-2

Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/04/22 16:35	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/26/22 22:54	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/26/22 22:54	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/26/22 22:54	1
Total Petroleum Hydrocarbons (C6-C35)	<50.0	U	50.0		mg/Kg			02/28/22 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*70*		*70 - 130*	*02/26/22 10:55*	*02/26/22 22:54*	*1*
o-Terphenyl (Surr)	*76*		*70 - 130*	*02/26/22 10:55*	*02/26/22 22:54*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**31.0**		4.99		mg/Kg			02/26/22 18:14	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

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)
880-11739-1	BH 02	108	101
880-11739-2	BH 02 C	110	105
880-11740-A-1-I MS	Matrix Spike	80	101
880-11740-A-1-J MSD	Matrix Spike Duplicate	105	100
LCS 880-20669/1-A	Lab Control Sample	94	100
LCSD 880-20669/2-A	Lab Control Sample Dup	96	101
MB 880-20669/5-A	Method Blank	97	100

Surrogate Legend

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

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO (70-130)	OTPH (70-130)
880-11739-1	BH 02	105	101
880-11739-1 MS	BH 02	106	90
880-11739-1 MSD	BH 02	107	100
880-11739-2	BH 02 C	70	76
880-11739-2 MS	BH 02 C	82	74
880-11739-2 MSD	BH 02 C	81	72
LCS 880-20369/2-A	Lab Control Sample	104	103
LCS 880-20381/2-A	Lab Control Sample	96	90
LCSD 880-20369/3-A	Lab Control Sample Dup	128	114
LCSD 880-20381/3-A	Lab Control Sample Dup	86	82
MB 880-20369/1-A	Method Blank	115	119
MB 880-20381/1-A	Method Blank	73	74

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-20669/5-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/04/22 07:30	03/04/22 12:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/04/22 07:30*	*03/04/22 12:56*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/04/22 07:30*	*03/04/22 12:56*	*1*

Lab Sample ID: LCS 880-20669/1-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20669

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1051		mg/Kg		105	70 - 130		
Toluene			0.100	0.09641		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.09532		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.2204		mg/Kg		110	70 - 130		
o-Xylene			0.100	0.1072		mg/Kg		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-20669/2-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20669

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1089		mg/Kg		109	70 - 130	4	35
Toluene			0.100	0.09986		mg/Kg		100	70 - 130	4	35
Ethylbenzene			0.100	0.09805		mg/Kg		98	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2269		mg/Kg		113	70 - 130	3	35
o-Xylene			0.100	0.1112		mg/Kg		111	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-11740-A-1-I MS
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.101	0.07143		mg/Kg		71	70 - 130		
Toluene	<0.00199	U F2 F1	0.101	0.06327	F1	mg/Kg		62	70 - 130		

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

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

Lab Sample ID: 880-11740-A-1-I MS
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U F1	0.101	0.06285	F1	mg/Kg		62	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1445		mg/Kg		72	70 - 130
o-Xylene	<0.00199	U	0.101	0.07131		mg/Kg		71	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-11740-A-1-J MSD
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20669

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0998	0.1001		mg/Kg		100	70 - 130	33	35
Toluene	<0.00199	U F2 F1	0.0998	0.09162	F2	mg/Kg		91	70 - 130	37	35
Ethylbenzene	<0.00199	U F1	0.0998	0.08914		mg/Kg		89	70 - 130	35	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2065		mg/Kg		103	70 - 130	35	35
o-Xylene	<0.00199	U	0.0998	0.1009		mg/Kg		101	70 - 130	34	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Lab Sample ID: MB 880-20369/1-A
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20369

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/26/22 21:46	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/26/22 21:46	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/26/22 21:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*115*		*70 - 130*	*02/25/22 17:26*	*02/26/22 21:46*	*1*
o-Terphenyl (Surr)	*119*		*70 - 130*	*02/25/22 17:26*	*02/26/22 21:46*	*1*

Lab Sample ID: LCS 880-20369/2-A
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C12 Range Hydrocarbons	1000	929.2		mg/Kg		93	75 - 125
>C12-C28 Range Hydrocarbons	1000	1165		mg/Kg		117	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*104*		*70 - 130*

Eurofins Midland

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: LCS 880-20369/2-A
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20369

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-20369/3-A
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20369

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons			1000	924.7		mg/Kg		92	75 - 125	0	25
>C12-C28 Range Hydrocarbons			1000	961.9		mg/Kg		96	75 - 125	19	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	128		70 - 130
o-Terphenyl (Surr)	114		70 - 130

Lab Sample ID: 880-11739-1 MS
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: BH 02
Prep Type: Total/NA
Prep Batch: 20369

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C12 Range Hydrocarbons	<50.0	U F1	998	1308	F1	mg/Kg		131	75 - 125
>C12-C28 Range Hydrocarbons	<50.0	U	998	1073		mg/Kg		108	75 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane (Surr)	106		70 - 130
o-Terphenyl (Surr)	90		70 - 130

Lab Sample ID: 880-11739-1 MSD
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: BH 02
Prep Type: Total/NA
Prep Batch: 20369

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons	<50.0	U F1	997	1115		mg/Kg		112	75 - 125	16	25
>C12-C28 Range Hydrocarbons	<50.0	U	997	1175		mg/Kg		118	75 - 125	9	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane (Surr)	107		70 - 130
o-Terphenyl (Surr)	100		70 - 130

Lab Sample ID: MB 880-20381/1-A
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20381

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/26/22 21:46	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/26/22 21:46	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/26/22 21:46	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: MB 880-20381/1-A
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20381

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane (Surr)	73		70 - 130	02/26/22 10:55	02/26/22 21:46	1
o-Terphenyl (Surr)	74		70 - 130	02/26/22 10:55	02/26/22 21:46	1

Lab Sample ID: LCS 880-20381/2-A
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20381

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C12 Range Hydrocarbons			1000	1132		mg/Kg		113	75 - 125		
>C12-C28 Range Hydrocarbons			1000	898.7		mg/Kg		90	75 - 125		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane (Surr)	96		70 - 130
o-Terphenyl (Surr)	90		70 - 130

Lab Sample ID: LCSD 880-20381/3-A
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20381

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons			1000	1016		mg/Kg		102	75 - 125	11	25
>C12-C28 Range Hydrocarbons			1000	791.5		mg/Kg		79	75 - 125	13	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	86		70 - 130
o-Terphenyl (Surr)	82		70 - 130

Lab Sample ID: 880-11739-2 MS
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: BH 02 C
Prep Type: Total/NA
Prep Batch: 20381

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane (Surr)	82		70 - 130
o-Terphenyl (Surr)	74		70 - 130

Lab Sample ID: 880-11739-2 MSD
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: BH 02 C
Prep Type: Total/NA
Prep Batch: 20381

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane (Surr)	81		70 - 130
o-Terphenyl (Surr)	72		70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20319/1-A
Matrix: Solid
Analysis Batch: 20365

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/25/22 16:45	1

Lab Sample ID: LCS 880-20319/2-A
Matrix: Solid
Analysis Batch: 20365

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	252.4		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-20319/3-A
Matrix: Solid
Analysis Batch: 20365

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	251.2		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 880-11731-A-9-F MS
Matrix: Solid
Analysis Batch: 20365

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	28.3		248	290.7		mg/Kg		106	90 - 110

Lab Sample ID: 880-11731-A-9-G MSD
Matrix: Solid
Analysis Batch: 20365

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	28.3		248	285.7		mg/Kg		104	90 - 110	2	20

Lab Sample ID: MB 880-20419/1-A
Matrix: Solid
Analysis Batch: 20698

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/03/22 11:44	1

Lab Sample ID: LCS 880-20419/2-A
Matrix: Solid
Analysis Batch: 20698

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	253.6		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-20419/3-A
Matrix: Solid
Analysis Batch: 20698

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	253.5		mg/Kg		101	90 - 110	0	20

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-11740-A-3-D MS
Matrix: Solid
Analysis Batch: 20698

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	450		1260	1793		mg/Kg		106	90 - 110		

Lab Sample ID: 880-11740-A-3-E MSD
Matrix: Solid
Analysis Batch: 20698

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	450		1260	1789		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

GC VOA

Prep Batch: 20669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-1	BH 02	Total/NA	Solid	5035	
880-11739-2	BH 02 C	Total/NA	Solid	5035	
MB 880-20669/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-20669/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-20669/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11740-A-1-I MS	Matrix Spike	Total/NA	Solid	5035	
880-11740-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 20859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-1	BH 02	Total/NA	Solid	8021B	20669
880-11739-2	BH 02 C	Total/NA	Solid	8021B	20669
MB 880-20669/5-A	Method Blank	Total/NA	Solid	8021B	20669
LCS 880-20669/1-A	Lab Control Sample	Total/NA	Solid	8021B	20669
LCSD 880-20669/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	20669
880-11740-A-1-I MS	Matrix Spike	Total/NA	Solid	8021B	20669
880-11740-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	20669

Analysis Batch: 20939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-1	BH 02	Total/NA	Solid	Total BTEX	
880-11739-2	BH 02 C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 20369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-1	BH 02	Total/NA	Solid	TX_1005_S_Prep	
MB 880-20369/1-A	Method Blank	Total/NA	Solid	TX_1005_S_Prep	
LCS 880-20369/2-A	Lab Control Sample	Total/NA	Solid	TX_1005_S_Prep	
LCSD 880-20369/3-A	Lab Control Sample Dup	Total/NA	Solid	TX_1005_S_Prep	
880-11739-1 MS	BH 02	Total/NA	Solid	TX_1005_S_Prep	
880-11739-1 MSD	BH 02	Total/NA	Solid	TX_1005_S_Prep	

Analysis Batch: 20378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-1	BH 02	Total/NA	Solid	TX 1005	20369
MB 880-20369/1-A	Method Blank	Total/NA	Solid	TX 1005	20369
LCS 880-20369/2-A	Lab Control Sample	Total/NA	Solid	TX 1005	20369
LCSD 880-20369/3-A	Lab Control Sample Dup	Total/NA	Solid	TX 1005	20369
880-11739-1 MS	BH 02	Total/NA	Solid	TX 1005	20369
880-11739-1 MSD	BH 02	Total/NA	Solid	TX 1005	20369

Analysis Batch: 20380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-2	BH 02 C	Total/NA	Solid	TX 1005	20381
MB 880-20381/1-A	Method Blank	Total/NA	Solid	TX 1005	20381

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

GC Semi VOA (Continued)

Analysis Batch: 20380 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-20381/2-A	Lab Control Sample	Total/NA	Solid	TX 1005	20381
LCSD 880-20381/3-A	Lab Control Sample Dup	Total/NA	Solid	TX 1005	20381
880-11739-2 MS	BH 02 C	Total/NA	Solid	TX 1005	20381
880-11739-2 MSD	BH 02 C	Total/NA	Solid	TX 1005	20381

Prep Batch: 20381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-2	BH 02 C	Total/NA	Solid	TX_1005_S_Prep	
MB 880-20381/1-A	Method Blank	Total/NA	Solid	TX_1005_S_Prep	
LCS 880-20381/2-A	Lab Control Sample	Total/NA	Solid	TX_1005_S_Prep	
LCSD 880-20381/3-A	Lab Control Sample Dup	Total/NA	Solid	TX_1005_S_Prep	
880-11739-2 MS	BH 02 C	Total/NA	Solid	TX_1005_S_Prep	
880-11739-2 MSD	BH 02 C	Total/NA	Solid	TX_1005_S_Prep	

Analysis Batch: 20510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-1	BH 02	Total/NA	Solid	TX 1005	
880-11739-2	BH 02 C	Total/NA	Solid	TX 1005	

HPLC/IC

Leach Batch: 20319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-2	BH 02 C	Soluble	Solid	DI Leach	
MB 880-20319/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20319/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20319/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11731-A-9-F MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11731-A-9-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 20365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-2	BH 02 C	Soluble	Solid	300.0	20319
MB 880-20319/1-A	Method Blank	Soluble	Solid	300.0	20319
LCS 880-20319/2-A	Lab Control Sample	Soluble	Solid	300.0	20319
LCSD 880-20319/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20319
880-11731-A-9-F MS	Matrix Spike	Soluble	Solid	300.0	20319
880-11731-A-9-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20319

Leach Batch: 20419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-1	BH 02	Soluble	Solid	DI Leach	
MB 880-20419/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20419/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20419/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11740-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11740-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

HPLC/IC

Analysis Batch: 20698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11739-1	BH 02	Soluble	Solid	300.0	20419
MB 880-20419/1-A	Method Blank	Soluble	Solid	300.0	20419
LCS 880-20419/2-A	Lab Control Sample	Soluble	Solid	300.0	20419
LCSD 880-20419/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20419
880-11740-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	20419
880-11740-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20419

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 02

Lab Sample ID: 880-11739-1

Date Collected: 02/24/22 11:15
Matrix: Solid
Date Received: 02/25/22 14:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	20669	03/04/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/04/22 16:08	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			20939	03/04/22 16:35	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.01 g	10 mL	20369	02/25/22 17:26	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20378	02/26/22 22:54	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20510	02/28/22 13:31	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	20419	02/28/22 09:23	CH	XEN MID
Soluble	Analysis	300.0		10			20698	03/03/22 13:48	CH	XEN MID

Client Sample ID: BH 02 C

Lab Sample ID: 880-11739-2

Date Collected: 02/24/22 11:33
Matrix: Solid
Date Received: 02/25/22 14:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	20669	03/04/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/04/22 16:29	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			20939	03/04/22 16:35	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20510	02/28/22 13:31	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.01 g	10 mL	20381	02/26/22 10:55	AM	XEN MID
Total/NA	Analysis	TX 1005		1			20380	02/26/22 22:54	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	20319	02/25/22 16:25	SC	XEN MID
Soluble	Analysis	300.0		1			20365	02/26/22 18:14	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	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
Total BTEX		Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 880-11739-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
TX 1005	Texas - Total Petroleum Hydrocarbon (GC)	TCEQ	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID
TX_1005_S_Prep	Extraction - Texas Total petroleum Hyrdocarbons	TCEQ	XEN MID

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TCEQ = Texas Commission of Environmental Quality

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11739-1
SDG: 32.37988,-103.88687

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-11739-1	BH 02	Solid	02/24/22 11:15	02/25/22 14:58	1'
880-11739-2	BH 02 C	Solid	02/24/22 11:33	02/25/22 14:58	4'

Chain of Custody

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, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800

Work Order: 880-11739 Chain of Custody

www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA	Company Name:	XTO Energy
Address:	3300 N A St Bldg 1 Suite 222	Address:	
City, State ZIP:	Midland, TX -79707	City, State ZIP:	
Phone:	337-257-8307	Email:	Tacoma.Morrissey@wsp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	JRU DI 1	Turn Around	
Project Number:	31403236.020.0129	Routine: ☐	
Project Location	32.37988, -103.88687	Rush: ☐	
Sampler's Name:	Nihaar Katoch	Due Date: 5 Day	
PO #:			

SAMPLE RECEIPT			
Temperature (°C):	5.5/5.4	Thermometer ID:	IR8 3.5154
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

Temp Blank: Yes (No) Wet Ice: (Yes) No

ANALYSIS REQUEST

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	TPH (1005)	BTEX (8021)	CHLORIDES (300)	Sample Comments
BH02	SL	2-24-22	11:15	1'	1	X	X	X	
BH02 C	SL	2-24-22	11:33	4'	1	X	X	X	

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Maddie Green		2/25/22 1456	2		
3			4		
5					

Revised Date 101419 Rev. 2019 1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 880-11739-1
SDG Number: 32.37988,-103.88687

Login Number: 11739
List Number: 1
Creator: Teel, Brianna

List Source: Eurofins Midland

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

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-11740-1
Laboratory Sample Delivery Group: 32.37988,-103.88687
Client Project/Site: JRU D1 1

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
3/4/2022 4:02:38 PM

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

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

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

Client: WSP USA Inc.
Project/Site: JRU D1 1

Laboratory Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-11740-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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.
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 D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Job ID: 880-11740-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-11740-1

Receipt
The samples were received on 2/25/2022 2:58 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 5.4°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 TX_1005: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-20369 and analytical batch 880-20378 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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 D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 03 A

Lab Sample ID: 880-11740-1
Matrix: Solid
Date Collected: 02/24/22 14:30
Date Received: 02/25/22 14:58
Sample Depth: 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 13:25	1
Toluene	<0.00199	U F2 F1	0.00199		mg/Kg		03/04/22 07:30	03/04/22 13:25	1
Ethylbenzene	<0.00199	U F1	0.00199		mg/Kg		03/04/22 07:30	03/04/22 13:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/04/22 07:30	03/04/22 13:25	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 13:25	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/04/22 07:30	03/04/22 13:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*03/04/22 07:30*	*03/04/22 13:25*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*03/04/22 07:30*	*03/04/22 13:25*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/04/22 16:35	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/27/22 02:39	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/27/22 02:39	1
>C28-C35 Range Hydrocarbons	**62.2**		50.0		mg/Kg		02/25/22 17:26	02/27/22 02:39	1
Total Petroleum Hydrocarbons (C6-C35)	**62.2**		50.0		mg/Kg			02/28/22 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*104*		*70 - 130*	*02/25/22 17:26*	*02/27/22 02:39*	*1*
o-Terphenyl (Surr)	*102*		*70 - 130*	*02/25/22 17:26*	*02/27/22 02:39*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11400**		250		mg/Kg			03/03/22 13:57	50

Client Sample ID: BH 03 C

Lab Sample ID: 880-11740-2
Matrix: Solid
Date Collected: 02/24/22 14:33
Date Received: 02/25/22 14:58
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 13:45	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 13:45	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 13:45	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/04/22 07:30	03/04/22 13:45	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:30	03/04/22 13:45	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/04/22 07:30	03/04/22 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*03/04/22 07:30*	*03/04/22 13:45*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*03/04/22 07:30*	*03/04/22 13:45*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 03 C

Lab Sample ID: 880-11740-2
Matrix: Solid
Date Collected: 02/24/22 14:33
Date Received: 02/25/22 14:58
Sample Depth: 4'

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/04/22 16:35	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/27/22 03:20	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/27/22 03:20	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/27/22 03:20	1
Total Petroleum Hydrocarbons (C6-C35)	<50.0	U	50.0		mg/Kg			02/28/22 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*99*		*70 - 130*	*02/25/22 17:26*	*02/27/22 03:20*	*1*
o-Terphenyl (Surr)	*99*		*70 - 130*	*02/25/22 17:26*	*02/27/22 03:20*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1950**		24.9		mg/Kg			03/04/22 09:44	5

Client Sample ID: BH 03 E

Lab Sample ID: 880-11740-3
Matrix: Solid
Date Collected: 02/24/22 15:15
Date Received: 02/25/22 14:58
Sample Depth: 8'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 14:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 14:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 14:06	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/04/22 07:30	03/04/22 14:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 14:06	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/04/22 07:30	03/04/22 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*03/04/22 07:30*	*03/04/22 14:06*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*03/04/22 07:30*	*03/04/22 14:06*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			03/04/22 16:35	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/27/22 03:41	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/27/22 03:41	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/27/22 03:41	1
Total Petroleum Hydrocarbons (C6-C35)	<50.0	U	50.0		mg/Kg			02/28/22 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*99*		*70 - 130*	*02/25/22 17:26*	*02/27/22 03:41*	*1*
o-Terphenyl (Surr)	*96*		*70 - 130*	*02/25/22 17:26*	*02/27/22 03:41*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 03 E

Date Collected: 02/24/22 15:15
Date Received: 02/25/22 14:58
Sample Depth: 8'

Lab Sample ID: 880-11740-3

Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450		25.3		mg/Kg			03/03/22 14:15	5

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

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)
880-11740-1	BH 03 A	108	104
880-11740-1 MS	BH 03 A	80	101
880-11740-1 MSD	BH 03 A	105	100
880-11740-2	BH 03 C	106	105
880-11740-3	BH 03 E	105	103
LCS 880-20669/1-A	Lab Control Sample	94	100
LCSD 880-20669/2-A	Lab Control Sample Dup	96	101
MB 880-20669/5-A	Method Blank	97	100

Surrogate Legend

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

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO	OTPH
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-11739-A-1-B MS	Matrix Spike	106	90
880-11739-A-1-C MSD	Matrix Spike Duplicate	107	100
880-11740-1	BH 03 A	104	102
880-11740-2	BH 03 C	99	99
880-11740-3	BH 03 E	99	96
LCS 880-20369/2-A	Lab Control Sample	104	103
LCSD 880-20369/3-A	Lab Control Sample Dup	128	114
MB 880-20369/1-A	Method Blank	115	119

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-20669/5-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/04/22 07:30	03/04/22 12:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/04/22 07:30*	*03/04/22 12:56*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/04/22 07:30*	*03/04/22 12:56*	*1*

Lab Sample ID: LCS 880-20669/1-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20669

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1051		mg/Kg		105	70 - 130		
Toluene			0.100	0.09641		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.09532		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.2204		mg/Kg		110	70 - 130		
o-Xylene			0.100	0.1072		mg/Kg		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-20669/2-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20669

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1089		mg/Kg		109	70 - 130	4	35
Toluene			0.100	0.09986		mg/Kg		100	70 - 130	4	35
Ethylbenzene			0.100	0.09805		mg/Kg		98	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2269		mg/Kg		113	70 - 130	3	35
o-Xylene			0.100	0.1112		mg/Kg		111	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-11740-1 MS
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: BH 03 A
Prep Type: Total/NA
Prep Batch: 20669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.101	0.07143		mg/Kg		71	70 - 130		
Toluene	<0.00199	U F2 F1	0.101	0.06327	F1	mg/Kg		62	70 - 130		

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

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

Lab Sample ID: 880-11740-1 MS
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: BH 03 A
Prep Type: Total/NA
Prep Batch: 20669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U F1	0.101	0.06285	F1	mg/Kg		62	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1445		mg/Kg		72	70 - 130
o-Xylene	<0.00199	U	0.101	0.07131		mg/Kg		71	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-11740-1 MSD
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: BH 03 A
Prep Type: Total/NA
Prep Batch: 20669

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0998	0.1001		mg/Kg		100	70 - 130	33	35
Toluene	<0.00199	U F2 F1	0.0998	0.09162	F2	mg/Kg		91	70 - 130	37	35
Ethylbenzene	<0.00199	U F1	0.0998	0.08914		mg/Kg		89	70 - 130	35	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2065		mg/Kg		103	70 - 130	35	35
o-Xylene	<0.00199	U	0.0998	0.1009		mg/Kg		101	70 - 130	34	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Lab Sample ID: MB 880-20369/1-A
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20369

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/26/22 21:46	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/26/22 21:46	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/25/22 17:26	02/26/22 21:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*115*		*70 - 130*	*02/25/22 17:26*	*02/26/22 21:46*	*1*
o-Terphenyl (Surr)	*119*		*70 - 130*	*02/25/22 17:26*	*02/26/22 21:46*	*1*

Lab Sample ID: LCS 880-20369/2-A
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C12 Range Hydrocarbons	1000	929.2		mg/Kg		93	75 - 125
>C12-C28 Range Hydrocarbons	1000	1165		mg/Kg		117	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*104*		*70 - 130*

Eurofins Midland

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: LCS 880-20369/2-A
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20369

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-20369/3-A
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20369

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons			1000	924.7		mg/Kg		92	75 - 125	0	25
>C12-C28 Range Hydrocarbons			1000	961.9		mg/Kg		96	75 - 125	19	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	128		70 - 130
o-Terphenyl (Surr)	114		70 - 130

Lab Sample ID: 880-11739-A-1-B MS
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20369

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C12 Range Hydrocarbons	<50.0	U F1	998	1308	F1	mg/Kg		131	75 - 125
>C12-C28 Range Hydrocarbons	<50.0	U	998	1073		mg/Kg		108	75 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane (Surr)	106		70 - 130
o-Terphenyl (Surr)	90		70 - 130

Lab Sample ID: 880-11739-A-1-C MSD
Matrix: Solid
Analysis Batch: 20378

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20369

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons	<50.0	U F1	997	1115		mg/Kg		112	75 - 125	16	25
>C12-C28 Range Hydrocarbons	<50.0	U	997	1175		mg/Kg		118	75 - 125	9	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane (Surr)	107		70 - 130
o-Terphenyl (Surr)	100		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20419/1-A
Matrix: Solid
Analysis Batch: 20698

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/03/22 11:44	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-20419/2-A
Matrix: Solid
Analysis Batch: 20698

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	253.6		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-20419/3-A
Matrix: Solid
Analysis Batch: 20698

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	253.5		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-11740-3 MS
Matrix: Solid
Analysis Batch: 20698

Client Sample ID: BH 03 E
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	450		1260	1793		mg/Kg		106	90 - 110		

Lab Sample ID: 880-11740-3 MSD
Matrix: Solid
Analysis Batch: 20698

Client Sample ID: BH 03 E
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	450		1260	1789		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

GC VOA

Prep Batch: 20669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11740-1	BH 03 A	Total/NA	Solid	5035	
880-11740-2	BH 03 C	Total/NA	Solid	5035	
880-11740-3	BH 03 E	Total/NA	Solid	5035	
MB 880-20669/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-20669/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-20669/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11740-1 MS	BH 03 A	Total/NA	Solid	5035	
880-11740-1 MSD	BH 03 A	Total/NA	Solid	5035	

Analysis Batch: 20859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11740-1	BH 03 A	Total/NA	Solid	8021B	20669
880-11740-2	BH 03 C	Total/NA	Solid	8021B	20669
880-11740-3	BH 03 E	Total/NA	Solid	8021B	20669
MB 880-20669/5-A	Method Blank	Total/NA	Solid	8021B	20669
LCS 880-20669/1-A	Lab Control Sample	Total/NA	Solid	8021B	20669
LCSD 880-20669/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	20669
880-11740-1 MS	BH 03 A	Total/NA	Solid	8021B	20669
880-11740-1 MSD	BH 03 A	Total/NA	Solid	8021B	20669

Analysis Batch: 20937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11740-1	BH 03 A	Total/NA	Solid	Total BTEX	
880-11740-2	BH 03 C	Total/NA	Solid	Total BTEX	
880-11740-3	BH 03 E	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 20369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11740-1	BH 03 A	Total/NA	Solid	TX_1005_S_Prep	
880-11740-2	BH 03 C	Total/NA	Solid	TX_1005_S_Prep	
880-11740-3	BH 03 E	Total/NA	Solid	TX_1005_S_Prep	
MB 880-20369/1-A	Method Blank	Total/NA	Solid	TX_1005_S_Prep	
LCS 880-20369/2-A	Lab Control Sample	Total/NA	Solid	TX_1005_S_Prep	
LCSD 880-20369/3-A	Lab Control Sample Dup	Total/NA	Solid	TX_1005_S_Prep	
880-11739-A-1-B MS	Matrix Spike	Total/NA	Solid	TX_1005_S_Prep	
880-11739-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	TX_1005_S_Prep	

Analysis Batch: 20378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11740-1	BH 03 A	Total/NA	Solid	TX 1005	20369
880-11740-2	BH 03 C	Total/NA	Solid	TX 1005	20369
880-11740-3	BH 03 E	Total/NA	Solid	TX 1005	20369
MB 880-20369/1-A	Method Blank	Total/NA	Solid	TX 1005	20369

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

GC Semi VOA (Continued)

Analysis Batch: 20378 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-20369/2-A	Lab Control Sample	Total/NA	Solid	TX 1005	20369
LCSD 880-20369/3-A	Lab Control Sample Dup	Total/NA	Solid	TX 1005	20369
880-11739-A-1-B MS	Matrix Spike	Total/NA	Solid	TX 1005	20369
880-11739-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	TX 1005	20369

Analysis Batch: 20513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11740-1	BH 03 A	Total/NA	Solid	TX 1005	
880-11740-2	BH 03 C	Total/NA	Solid	TX 1005	
880-11740-3	BH 03 E	Total/NA	Solid	TX 1005	

HPLC/IC

Leach Batch: 20419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11740-1	BH 03 A	Soluble	Solid	DI Leach	
880-11740-2	BH 03 C	Soluble	Solid	DI Leach	
880-11740-3	BH 03 E	Soluble	Solid	DI Leach	
MB 880-20419/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20419/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20419/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11740-3 MS	BH 03 E	Soluble	Solid	DI Leach	
880-11740-3 MSD	BH 03 E	Soluble	Solid	DI Leach	

Analysis Batch: 20698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11740-1	BH 03 A	Soluble	Solid	300.0	20419
880-11740-2	BH 03 C	Soluble	Solid	300.0	20419
880-11740-3	BH 03 E	Soluble	Solid	300.0	20419
MB 880-20419/1-A	Method Blank	Soluble	Solid	300.0	20419
LCS 880-20419/2-A	Lab Control Sample	Soluble	Solid	300.0	20419
LCSD 880-20419/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20419
880-11740-3 MS	BH 03 E	Soluble	Solid	300.0	20419
880-11740-3 MSD	BH 03 E	Soluble	Solid	300.0	20419

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 03 A

Lab Sample ID: 880-11740-1

Date Collected: 02/24/22 14:30
Matrix: Solid
Date Received: 02/25/22 14:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	20669	03/04/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/04/22 13:25	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			20937	03/04/22 16:35	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.01 g	10 mL	20369	02/25/22 17:26	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20378	02/27/22 02:39	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20513	02/28/22 13:31	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	20419	02/28/22 09:23	CH	XEN MID
Soluble	Analysis	300.0		50			20698	03/03/22 13:57	CH	XEN MID

Client Sample ID: BH 03 C

Lab Sample ID: 880-11740-2

Date Collected: 02/24/22 14:33
Matrix: Solid
Date Received: 02/25/22 14:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	20669	03/04/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/04/22 13:45	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			20937	03/04/22 16:35	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.00 g	10 mL	20369	02/25/22 17:26	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20378	02/27/22 03:20	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20513	02/28/22 13:31	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	20419	02/28/22 09:23	CH	XEN MID
Soluble	Analysis	300.0		5			20698	03/04/22 09:44	CH	XEN MID

Client Sample ID: BH 03 E

Lab Sample ID: 880-11740-3

Date Collected: 02/24/22 15:15
Matrix: Solid
Date Received: 02/25/22 14:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	20669	03/04/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/04/22 14:06	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			20937	03/04/22 16:35	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.00 g	10 mL	20369	02/25/22 17:26	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20378	02/27/22 03:41	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20513	02/28/22 13:31	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	20419	02/28/22 09:23	CH	XEN MID
Soluble	Analysis	300.0		5			20698	03/03/22 14:15	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 880-11740-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	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
Total BTEX		Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 880-11740-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
TX 1005	Texas - Total Petroleum Hydrocarbon (GC)	TCEQ	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID
TX_1005_S_Prep	Extraction - Texas Total petroleum Hyrdocarbons	TCEQ	XEN MID

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TCEQ = Texas Commission of Environmental Quality

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11740-1
SDG: 32.37988,-103.88687

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-11740-1	BH 03 A	Solid	02/24/22 14:30	02/25/22 14:58	2'
880-11740-2	BH 03 C	Solid	02/24/22 14:33	02/25/22 14:58	4'
880-11740-3	BH 03 E	Solid	02/24/22 15:15	02/25/22 14:58	8'

Chain of Custody

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, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800

Work Or

880-11740 Chain of Custody

3/4/2022

www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA	Company Name:	XTO Energy
Address:	3300 N A St, Bldg 1, Suite 222	Address:	
City, State ZIP:	Midland TX-79707	City, State ZIP:	
Phone:	337-257-8307	Email:	Tacoma.Morrissey@wsp.com

Work Order Comments

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

Project Name:	JRU DI 1	Turn Around	
Project Number:	31403236.020.0129	Routine: ☐	
Project Location	32.37988, -103.88687	Rush: ☐	
Sampler's Name:	Nithaa Kalach	Due Date: 5 Day	
PO #:			

SAMPLE RECEIPT			
Temperature (°C):	5.5/5.4	Thermometer ID:	IR8 5.5/5.4
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.1
Sample Custody Seals:	Yes No N/A	Total Containers:	

Temp Blank: Yes ~~No~~ Wet Ice: ~~Yes~~ No

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	TPH (1005)	BTEX (8021)	CHLORIDES (300)
BH03 A	SL	2-24-22	14:30	2'	1	X	X	X
BH03 C	↓	↓	14:33	4'	↓	↓	↓	↓
BH03 E	↓	↓	15:15	8'	↓	↓	↓	↓

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

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

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Gladis Green		2/28/22 14:48	2		
3					
5			6		

Revised Date101419 Rev 2019 1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 880-11740-1
SDG Number: 32.37988,-103.88687

Login Number: 11740
List Number: 1
Creator: Teel, Brianna

List Source: Eurofins Midland

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

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-11741-1
Laboratory Sample Delivery Group: 32.37988,-103.88687
Client Project/Site: JRU D1 1

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
3/4/2022 1:17:32 PM

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

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

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

Client: WSP USA Inc.
Project/Site: JRU D1 1

Laboratory Job ID: 880-11741-1
SDG: 32.37988,-103.88687

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-11741-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
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: 880-11741-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Job ID: 880-11741-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-11741-1

Receipt
The samples were received on 2/25/2022 2:58 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 5.4°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 TX_1005: Surrogate recovery for the following samples were outside control limits: BH 01 (880-11741-1) and BH 01 C (880-11741-2). 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 D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 01

Lab Sample ID: 880-11741-1
Matrix: Solid
Date Collected: 02/24/22 10:36
Date Received: 02/25/22 14:58
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:45	03/04/22 11:52	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:45	03/04/22 11:52	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:45	03/04/22 11:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/04/22 07:45	03/04/22 11:52	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/04/22 07:45	03/04/22 11:52	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/04/22 07:45	03/04/22 11:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*03/04/22 07:45*	*03/04/22 11:52*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*03/04/22 07:45*	*03/04/22 11:52*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/04/22 14:07	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		02/26/22 10:55	02/26/22 23:56	1
>C12-C28 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		02/26/22 10:55	02/26/22 23:56	1
>C28-C35 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		02/26/22 10:55	02/26/22 23:56	1
Total Petroleum Hydrocarbons (C6-C35)	<49.9	U	49.9		mg/Kg			02/28/22 15:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*0*	*S1-*	*70 - 130*	*02/26/22 10:55*	*02/26/22 23:56*	*1*
o-Terphenyl (Surr)	*0*	*S1-*	*70 - 130*	*02/26/22 10:55*	*02/26/22 23:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3110**		49.8		mg/Kg			03/03/22 14:41	10

Client Sample ID: BH 01 C

Lab Sample ID: 880-11741-2
Matrix: Solid
Date Collected: 02/24/22 10:50
Date Received: 02/25/22 14:58
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 12:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 12:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 12:13	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		03/04/22 07:45	03/04/22 12:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 12:13	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		03/04/22 07:45	03/04/22 12:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*03/04/22 07:45*	*03/04/22 12:13*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/04/22 07:45*	*03/04/22 12:13*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 01 C

Date Collected: 02/24/22 10:50
Date Received: 02/25/22 14:58
Sample Depth: 4'

Lab Sample ID: 880-11741-2

Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			03/04/22 14:07	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/27/22 00:16	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/27/22 00:16	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/27/22 00:16	1
Total Petroleum Hydrocarbons (C6-C35)	<50.0	U	50.0		mg/Kg			02/28/22 15:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*0*	*S1-*	*70 - 130*	*02/26/22 10:55*	*02/27/22 00:16*	*1*
o-Terphenyl (Surr)	*0*	*S1-*	*70 - 130*	*02/26/22 10:55*	*02/27/22 00:16*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**195**		4.97		mg/Kg			03/03/22 17:29	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

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)										
880-11741-1	BH 01	109	102										
880-11741-1 MS	BH 01	105	102										
880-11741-1 MSD	BH 01	104	102										
880-11741-2	BH 01 C	103	100										
LCS 880-20668/1-A	Lab Control Sample	97	101										
LCSD 880-20668/2-A	Lab Control Sample Dup	99	102										
MB 880-20668/5-A	Method Blank	104	95										

Surrogate Legend

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

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO	OTPH										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-11739-A-2-C MS	Matrix Spike	82	74										
880-11739-A-2-D MSD	Matrix Spike Duplicate	81	72										
880-11741-1	BH 01	0 S1-	0 S1-										
880-11741-2	BH 01 C	0 S1-	0 S1-										
LCS 880-20381/2-A	Lab Control Sample	96	90										
LCSD 880-20381/3-A	Lab Control Sample Dup	86	82										
MB 880-20381/1-A	Method Blank	73	74										

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-20668/5-A
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20668

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:45	03/04/22 11:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/04/22 07:45	03/04/22 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*03/04/22 07:45*	*03/04/22 11:31*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*03/04/22 07:45*	*03/04/22 11:31*	*1*

Lab Sample ID: LCS 880-20668/1-A
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20668

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1062		mg/Kg		106	70 - 130		
Toluene			0.100	0.1031		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.09905		mg/Kg		99	70 - 130		
m-Xylene & p-Xylene			0.200	0.2035		mg/Kg		102	70 - 130		
o-Xylene			0.100	0.09826		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-20668/2-A
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20668

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1116		mg/Kg		112	70 - 130	5	35
Toluene			0.100	0.1082		mg/Kg		108	70 - 130	5	35
Ethylbenzene			0.100	0.1035		mg/Kg		104	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2121		mg/Kg		106	70 - 130	4	35
o-Xylene			0.100	0.1025		mg/Kg		102	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-11741-1 MS
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: BH 01
Prep Type: Total/NA
Prep Batch: 20668

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.0988	0.09517		mg/Kg		96	70 - 130		
Toluene	<0.00199	U	0.0988	0.09286		mg/Kg		94	70 - 130		

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

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

Lab Sample ID: 880-11741-1 MS
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: BH 01
Prep Type: Total/NA
Prep Batch: 20668

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U	0.0988	0.08880		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1824		mg/Kg		92	70 - 130
o-Xylene	<0.00199	U	0.0988	0.08865		mg/Kg		90	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-11741-1 MSD
Matrix: Solid
Analysis Batch: 20854

Client Sample ID: BH 01
Prep Type: Total/NA
Prep Batch: 20668

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	0.09169		mg/Kg		92	70 - 130	4	35
Toluene	<0.00199	U	0.100	0.08797		mg/Kg		87	70 - 130	5	35
Ethylbenzene	<0.00199	U	0.100	0.08420		mg/Kg		84	70 - 130	5	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1735		mg/Kg		87	70 - 130	5	35
o-Xylene	<0.00199	U	0.100	0.08423		mg/Kg		84	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Lab Sample ID: MB 880-20381/1-A
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20381

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/26/22 21:46	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/26/22 21:46	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		02/26/22 10:55	02/26/22 21:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*73*		*70 - 130*	*02/26/22 10:55*	*02/26/22 21:46*	*1*
o-Terphenyl (Surr)	*74*		*70 - 130*	*02/26/22 10:55*	*02/26/22 21:46*	*1*

Lab Sample ID: LCS 880-20381/2-A
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20381

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C12 Range Hydrocarbons	1000	1132		mg/Kg		113	75 - 125
>C12-C28 Range Hydrocarbons	1000	898.7		mg/Kg		90	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*96*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: LCS 880-20381/2-A
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20381

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl (Surr)	90		70 - 130

Lab Sample ID: LCSD 880-20381/3-A
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20381

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons			1000	1016		mg/Kg		102	75 - 125	11	25
>C12-C28 Range Hydrocarbons			1000	791.5		mg/Kg		79	75 - 125	13	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	86		70 - 130
o-Terphenyl (Surr)	82		70 - 130

Lab Sample ID: 880-11739-A-2-C MS
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20381

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane (Surr)	82		70 - 130
o-Terphenyl (Surr)	74		70 - 130

Lab Sample ID: 880-11739-A-2-D MSD
Matrix: Solid
Analysis Batch: 20380

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20381

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane (Surr)	81		70 - 130
o-Terphenyl (Surr)	72		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20419/1-A
Matrix: Solid
Analysis Batch: 20698

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/03/22 11:44	1

Lab Sample ID: LCS 880-20419/2-A
Matrix: Solid
Analysis Batch: 20698

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	253.6		mg/Kg		101	90 - 110		

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-20419/3-A
Matrix: Solid
Analysis Batch: 20698

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	253.5		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-11733-A-1-B MS
Matrix: Solid
Analysis Batch: 20698

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	17300		12500	29750		mg/Kg		100	90 - 110

Lab Sample ID: 880-11733-A-1-C MSD
Matrix: Solid
Analysis Batch: 20698

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	17300		12500	30030		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 880-11740-A-3-D MS
Matrix: Solid
Analysis Batch: 20698

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	450		1260	1793		mg/Kg		106	90 - 110

Lab Sample ID: 880-11740-A-3-E MSD
Matrix: Solid
Analysis Batch: 20698

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	450		1260	1789		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

GC VOA

Prep Batch: 20668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11741-1	BH 01	Total/NA	Solid	5035	
880-11741-2	BH 01 C	Total/NA	Solid	5035	
MB 880-20668/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-20668/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-20668/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11741-1 MS	BH 01	Total/NA	Solid	5035	
880-11741-1 MSD	BH 01	Total/NA	Solid	5035	

Analysis Batch: 20854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11741-1	BH 01	Total/NA	Solid	8021B	20668
880-11741-2	BH 01 C	Total/NA	Solid	8021B	20668
MB 880-20668/5-A	Method Blank	Total/NA	Solid	8021B	20668
LCS 880-20668/1-A	Lab Control Sample	Total/NA	Solid	8021B	20668
LCSD 880-20668/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	20668
880-11741-1 MS	BH 01	Total/NA	Solid	8021B	20668
880-11741-1 MSD	BH 01	Total/NA	Solid	8021B	20668

Analysis Batch: 20918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11741-1	BH 01	Total/NA	Solid	Total BTEX	
880-11741-2	BH 01 C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 20380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11741-1	BH 01	Total/NA	Solid	TX 1005	20381
880-11741-2	BH 01 C	Total/NA	Solid	TX 1005	20381
MB 880-20381/1-A	Method Blank	Total/NA	Solid	TX 1005	20381
LCS 880-20381/2-A	Lab Control Sample	Total/NA	Solid	TX 1005	20381
LCSD 880-20381/3-A	Lab Control Sample Dup	Total/NA	Solid	TX 1005	20381
880-11739-A-2-C MS	Matrix Spike	Total/NA	Solid	TX 1005	20381
880-11739-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	TX 1005	20381

Prep Batch: 20381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11741-1	BH 01	Total/NA	Solid	TX_1005_S_Prep	
880-11741-2	BH 01 C	Total/NA	Solid	TX_1005_S_Prep	
MB 880-20381/1-A	Method Blank	Total/NA	Solid	TX_1005_S_Prep	
LCS 880-20381/2-A	Lab Control Sample	Total/NA	Solid	TX_1005_S_Prep	
LCSD 880-20381/3-A	Lab Control Sample Dup	Total/NA	Solid	TX_1005_S_Prep	
880-11739-A-2-C MS	Matrix Spike	Total/NA	Solid	TX_1005_S_Prep	
880-11739-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	TX_1005_S_Prep	

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

GC Semi VOA

Analysis Batch: 20528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11741-1	BH 01	Total/NA	Solid	TX 1005	
880-11741-2	BH 01 C	Total/NA	Solid	TX 1005	

HPLC/IC

Leach Batch: 20419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11741-1	BH 01	Soluble	Solid	DI Leach	
880-11741-2	BH 01 C	Soluble	Solid	DI Leach	
MB 880-20419/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20419/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20419/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11733-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11733-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
880-11740-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11740-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 20698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11741-1	BH 01	Soluble	Solid	300.0	20419
880-11741-2	BH 01 C	Soluble	Solid	300.0	20419
MB 880-20419/1-A	Method Blank	Soluble	Solid	300.0	20419
LCS 880-20419/2-A	Lab Control Sample	Soluble	Solid	300.0	20419
LCSD 880-20419/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20419
880-11733-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	20419
880-11733-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20419
880-11740-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	20419
880-11740-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20419

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

Client Sample ID: BH 01

Lab Sample ID: 880-11741-1

Date Collected: 02/24/22 10:36
Matrix: Solid
Date Received: 02/25/22 14:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20854	03/04/22 11:52	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			20918	03/04/22 14:07	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.03 g	10 mL	20381	02/26/22 10:55	AM	XEN MID
Total/NA	Analysis	TX 1005		1			20380	02/26/22 23:56	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20528	02/28/22 15:00	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	20419	02/28/22 09:23	CH	XEN MID
Soluble	Analysis	300.0		10			20698	03/03/22 14:41	CH	XEN MID

Client Sample ID: BH 01 C

Lab Sample ID: 880-11741-2

Date Collected: 02/24/22 10:50
Matrix: Solid
Date Received: 02/25/22 14:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	20668	03/04/22 07:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20854	03/04/22 12:13	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			20918	03/04/22 14:07	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.00 g	10 mL	20381	02/26/22 10:55	AM	XEN MID
Total/NA	Analysis	TX 1005		1			20380	02/27/22 00:16	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20528	02/28/22 15:00	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	20419	02/28/22 09:23	CH	XEN MID
Soluble	Analysis	300.0		1			20698	03/03/22 17:29	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 880-11741-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	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
Total BTEX		Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 880-11741-1
Project/Site: JRU D1 1 SDG: 32.37988,-103.88687

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
TX 1005	Texas - Total Petroleum Hydrocarbon (GC)	TCEQ	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID
TX_1005_S_Prep	Extraction - Texas Total petroleum Hyrdocarbons	TCEQ	XEN MID

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TCEQ = Texas Commission of Environmental Quality

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: JRU D1 1

Job ID: 880-11741-1
SDG: 32.37988,-103.88687

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-11741-1	BH 01	Solid	02/24/22 10:36	02/25/22 14:58	1'
880-11741-2	BH 01 C	Solid	02/24/22 10:50	02/25/22 14:58	4'

Chain of Custody

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, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800

Work Orc

880-11741 Chain of Custody

3/4/2022

www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA	Company Name:	XTO Energy
Address:	3300 N A. St, Bldg 1 Suite 222	Address:	
City, State ZIP:	Midland, TX -79707	City, State ZIP:	
Phone:	337-257-8307	Email:	Tacoma.Morrissey@wsp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting: Level II ◯ Level III ☐ PST/USTT ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ◯ ADaPT ☐ Other:

Project Name:	JRU DI 1	Turn Around	
Project Number:	31403236.020.D129	Routine: ☐	
Project Location	32.37988, -103.88687	Rush: ☐	
Sampler's Name:	Nihaar Katoch	Due Date: 5 Day	
PO #:			

SAMPLE RECEIPT			
Temperature (°C):	5.5/5.4	Thermometer ID	IR6 5.5/5.5
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	0.1
Sample Custody Seals:	Yes No N/A	Total Containers:	

Temp Blank: Yes No Wet Ice: Yes No

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	TPH (1005)	BTEX (8021)	CHLORIDES (300)
BH01	SL	2-24-22	10:36	1'	1	X	X	X
BH01 C	SL	2-24-22	10:50	4'	1	X	X	X

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

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

Sample Comments

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 Gladis Green		2/25/22	2		
3			4		
5		1458	6		

Revised Date101419 Rev. 2019 1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 880-11741-1
SDG Number: 32.37988,-103.88687

Login Number: 11741
List Number: 1
Creator: Teel, Brianna

List Source: Eurofins Midland

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-11795-1
Laboratory Sample Delivery Group: 32.37988, -103.88687
Client Project/Site: JRU DI 1

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
3/7/2022 9:27:17 PM

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

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

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

Client: WSP USA Inc.
Project/Site: JRU DI 1

Laboratory Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-11795-1
Project/Site: JRU DI 1 SDG: 32.37988, -103.88687

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Job ID: 880-11795-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-11795-1

Receipt
The samples were received on 2/28/2022 4:34 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 5.5°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
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 DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Client Sample ID: BH 06

Lab Sample ID: 880-11795-1
Matrix: Solid
Date Collected: 02/25/22 15:00
Date Received: 02/28/22 16:34
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		03/06/22 11:20	03/07/22 00:59	1
Toluene	<0.00201	U	0.00201		mg/Kg		03/06/22 11:20	03/07/22 00:59	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		03/06/22 11:20	03/07/22 00:59	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		03/06/22 11:20	03/07/22 00:59	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		03/06/22 11:20	03/07/22 00:59	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		03/06/22 11:20	03/07/22 00:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*03/06/22 11:20*	*03/07/22 00:59*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*03/06/22 11:20*	*03/07/22 00:59*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			03/07/22 10:04	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 15:26	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 15:26	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 15:26	1
Total Petroleum Hydrocarbons (C6-C35)	<50.0	U	50.0		mg/Kg			03/03/22 08:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*106*		*70 - 130*	*03/01/22 09:28*	*03/02/22 15:26*	*1*
o-Terphenyl (Surr)	*107*		*70 - 130*	*03/01/22 09:28*	*03/02/22 15:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**246**		25.0		mg/Kg			03/03/22 19:16	5

Client Sample ID: BH 06C

Lab Sample ID: 880-11795-2
Matrix: Solid
Date Collected: 02/25/22 15:15
Date Received: 02/28/22 16:34
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		03/06/22 11:20	03/07/22 01:20	1
Toluene	<0.00202	U	0.00202		mg/Kg		03/06/22 11:20	03/07/22 01:20	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		03/06/22 11:20	03/07/22 01:20	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		03/06/22 11:20	03/07/22 01:20	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		03/06/22 11:20	03/07/22 01:20	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		03/06/22 11:20	03/07/22 01:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*03/06/22 11:20*	*03/07/22 01:20*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*03/06/22 11:20*	*03/07/22 01:20*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Client Sample ID: BH 06C

Date Collected: 02/25/22 15:15
Date Received: 02/28/22 16:34
Sample Depth: 4'

Lab Sample ID: 880-11795-2

Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			03/07/22 10:04	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		03/01/22 09:28	03/02/22 15:46	1
>C12-C28 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		03/01/22 09:28	03/02/22 15:46	1
>C28-C35 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		03/01/22 09:28	03/02/22 15:46	1
Total Petroleum Hydrocarbons (C6-C35)	<49.9	U	49.9		mg/Kg			03/03/22 08:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*113*		*70 - 130*	*03/01/22 09:28*	*03/02/22 15:46*	*1*
o-Terphenyl (Surr)	*112*		*70 - 130*	*03/01/22 09:28*	*03/02/22 15:46*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		4.99		mg/Kg			03/04/22 10:10	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

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)
880-11795-1	BH 06	112	104
880-11795-2	BH 06C	108	99
880-11797-A-1-L MSD	Matrix Spike Duplicate	105	103
880-11797-A-1-N MS	Matrix Spike	102	87
LCS 880-20688/1-A	Lab Control Sample	97	103
LCSD 880-20688/2-A	Lab Control Sample Dup	99	101
MB 880-20688/5-A	Method Blank	100	98
MB 880-20897/5-A	Method Blank	95	98

Surrogate Legend

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

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO (70-130)	OTPH (70-130)
880-11733-A-2-C MS	Matrix Spike	114	104
880-11733-A-2-D MSD	Matrix Spike Duplicate	116	106
880-11795-1	BH 06	106	107
880-11795-2	BH 06C	113	112
LCS 880-20584/2-A	Lab Control Sample	118	111
LCSD 880-20584/3-A	Lab Control Sample Dup	116	111
MB 880-20584/1-A	Method Blank	106	112

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-20688/5-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20688

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/06/22 11:20	03/06/22 23:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*03/06/22 11:20*	*03/06/22 23:50*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/06/22 11:20*	*03/06/22 23:50*	*1*

Lab Sample ID: LCS 880-20688/1-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20688

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1076		mg/Kg		108	70 - 130		
Toluene			0.100	0.1007		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.09908		mg/Kg		99	70 - 130		
m-Xylene & p-Xylene			0.200	0.2300		mg/Kg		115	70 - 130		
o-Xylene			0.100	0.1125		mg/Kg		112	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 880-20688/2-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20688

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1036		mg/Kg		104	70 - 130	4	35
Toluene			0.100	0.09620		mg/Kg		96	70 - 130	5	35
Ethylbenzene			0.100	0.09579		mg/Kg		96	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2221		mg/Kg		111	70 - 130	3	35
o-Xylene			0.100	0.1103		mg/Kg		110	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-11797-A-1-L MSD
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20688

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U F2 F1	0.0992	0.08934	F2	mg/Kg		89	70 - 130	83	35
Toluene	<0.00198	U F2 F1	0.0992	0.08271	F2	mg/Kg		82	70 - 130	69	35

Eurofins Midland

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

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

Lab Sample ID: 880-11797-A-1-L MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20859 — **Prep Batch: 20688**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00198	U F2 F1	0.0992	0.08084	F2	mg/Kg		81	70 - 130	62	35
m-Xylene & p-Xylene	<0.00397	U F2 F1	0.198	0.1874	F2	mg/Kg		94	70 - 130	66	35
o-Xylene	<0.00198	U F2 F1	0.0992	0.09159	F2	mg/Kg		92	70 - 130	64	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-11797-A-1-N MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20859 — **Prep Batch: 20688**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00198	U F2 F1	0.0990	0.03681	F1	mg/Kg		36	70 - 130
Toluene	<0.00198	U F2 F1	0.0990	0.04011	F1	mg/Kg		39	70 - 130
Ethylbenzene	<0.00198	U F2 F1	0.0990	0.04279	F1	mg/Kg		43	70 - 130
m-Xylene & p-Xylene	<0.00397	U F2 F1	0.198	0.09448	F1	mg/Kg		48	70 - 130
o-Xylene	<0.00198	U F2 F1	0.0990	0.04736	F1	mg/Kg		48	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: MB 880-20897/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20859 — **Prep Batch: 20897**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/04/22 12:13	03/06/22 12:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*03/04/22 12:13*	*03/06/22 12:14*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/04/22 12:13*	*03/06/22 12:14*	*1*

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Lab Sample ID: MB 880-20584/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20651 — **Prep Batch: 20584**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 09:06	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 09:06	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: MB 880-20584/1-A
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20584

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 09:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*106*		*70 - 130*	*03/01/22 09:28*	*03/02/22 09:06*	*1*
o-Terphenyl (Surr)	*112*		*70 - 130*	*03/01/22 09:28*	*03/02/22 09:06*	*1*

Lab Sample ID: LCS 880-20584/2-A
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20584

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C12 Range Hydrocarbons			1000	930.5		mg/Kg		93	75 - 125		
>C12-C28 Range Hydrocarbons			1000	1069		mg/Kg		107	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*118*		*70 - 130*
o-Terphenyl (Surr)	*111*		*70 - 130*

Lab Sample ID: LCSD 880-20584/3-A
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20584

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons			1000	880.7		mg/Kg		88	75 - 125	6	25
>C12-C28 Range Hydrocarbons			1000	987.4		mg/Kg		99	75 - 125	8	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane (Surr)	*116*		*70 - 130*
o-Terphenyl (Surr)	*111*		*70 - 130*

Lab Sample ID: 880-11733-A-2-C MS
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20584

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C12 Range Hydrocarbons	<50.0	U	995	1082		mg/Kg		109	75 - 125		
>C12-C28 Range Hydrocarbons	<50.0	U	995	986.7		mg/Kg		99	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*114*		*70 - 130*
o-Terphenyl (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-11733-A-2-D MSD
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20584

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons	<50.0	U	998	1178		mg/Kg		118	75 - 125	9	25

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: 880-11733-A-2-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 20651 — **Prep Batch: 20584**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
>C12-C28 Range Hydrocarbons	<50.0	U	998	1018		mg/Kg		102	75 - 125	3	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane (Surr)	*116*		*70 - 130*
o-Terphenyl (Surr)	*106*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20585/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/03/22 18:14	1

Lab Sample ID: LCS 880-20585/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20705

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	258.2		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-20585/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20705

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	258.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-11799-A-3-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20705

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	1640		1250	3014		mg/Kg		110	90 - 110		

Lab Sample ID: 880-11799-A-3-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 20705

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1640		1250	2994		mg/Kg		108	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

GC VOA

Prep Batch: 20688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11795-1	BH 06	Total/NA	Solid	5035	
880-11795-2	BH 06C	Total/NA	Solid	5035	
MB 880-20688/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-20688/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-20688/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11797-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
880-11797-A-1-N MS	Matrix Spike	Total/NA	Solid	5035	

Analysis Batch: 20859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11795-1	BH 06	Total/NA	Solid	8021B	20688
880-11795-2	BH 06C	Total/NA	Solid	8021B	20688
MB 880-20688/5-A	Method Blank	Total/NA	Solid	8021B	20688
MB 880-20897/5-A	Method Blank	Total/NA	Solid	8021B	20897
LCS 880-20688/1-A	Lab Control Sample	Total/NA	Solid	8021B	20688
LCSD 880-20688/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	20688
880-11797-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	20688
880-11797-A-1-N MS	Matrix Spike	Total/NA	Solid	8021B	20688

Prep Batch: 20897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-20897/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 21020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11795-1	BH 06	Total/NA	Solid	Total BTEX	
880-11795-2	BH 06C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 20584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11795-1	BH 06	Total/NA	Solid	TX_1005_S_Prep	
880-11795-2	BH 06C	Total/NA	Solid	TX_1005_S_Prep	
MB 880-20584/1-A	Method Blank	Total/NA	Solid	TX_1005_S_Prep	
LCS 880-20584/2-A	Lab Control Sample	Total/NA	Solid	TX_1005_S_Prep	
LCSD 880-20584/3-A	Lab Control Sample Dup	Total/NA	Solid	TX_1005_S_Prep	
880-11733-A-2-C MS	Matrix Spike	Total/NA	Solid	TX_1005_S_Prep	
880-11733-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	TX_1005_S_Prep	

Analysis Batch: 20651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11795-1	BH 06	Total/NA	Solid	TX 1005	20584
880-11795-2	BH 06C	Total/NA	Solid	TX 1005	20584
MB 880-20584/1-A	Method Blank	Total/NA	Solid	TX 1005	20584
LCS 880-20584/2-A	Lab Control Sample	Total/NA	Solid	TX 1005	20584

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

GC Semi VOA (Continued)

Analysis Batch: 20651 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-20584/3-A	Lab Control Sample Dup	Total/NA	Solid	TX 1005	20584
880-11733-A-2-C MS	Matrix Spike	Total/NA	Solid	TX 1005	20584
880-11733-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	TX 1005	20584

Analysis Batch: 20753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11795-1	BH 06	Total/NA	Solid	TX 1005	
880-11795-2	BH 06C	Total/NA	Solid	TX 1005	

HPLC/IC

Leach Batch: 20585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11795-1	BH 06	Soluble	Solid	DI Leach	
880-11795-2	BH 06C	Soluble	Solid	DI Leach	
MB 880-20585/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20585/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20585/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11799-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11799-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 20705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11795-1	BH 06	Soluble	Solid	300.0	20585
880-11795-2	BH 06C	Soluble	Solid	300.0	20585
MB 880-20585/1-A	Method Blank	Soluble	Solid	300.0	20585
LCS 880-20585/2-A	Lab Control Sample	Soluble	Solid	300.0	20585
LCSD 880-20585/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20585
880-11799-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	20585
880-11799-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20585

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Client Sample ID: BH 06

Lab Sample ID: 880-11795-1

Date Collected: 02/25/22 15:00
Matrix: Solid
Date Received: 02/28/22 16:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	20688	03/06/22 11:20	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/07/22 00:59	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			21020	03/07/22 10:04	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.01 g	10 mL	20584	03/01/22 09:28	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20651	03/02/22 15:26	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20753	03/03/22 08:18	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	20585	03/01/22 09:38	SC	XEN MID
Soluble	Analysis	300.0		5			20705	03/03/22 19:16	CH	XEN MID

Client Sample ID: BH 06C

Lab Sample ID: 880-11795-2

Date Collected: 02/25/22 15:15
Matrix: Solid
Date Received: 02/28/22 16:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	20688	03/06/22 11:20	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/07/22 01:20	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			21020	03/07/22 10:04	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.02 g	10 mL	20584	03/01/22 09:28	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20651	03/02/22 15:46	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20753	03/03/22 08:18	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	20585	03/01/22 09:38	SC	XEN MID
Soluble	Analysis	300.0		1			20705	03/04/22 10:10	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	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
Total BTEX		Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 880-11795-1
Project/Site: JRU DI 1 SDG: 32.37988, -103.88687

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
TX 1005	Texas - Total Petroleum Hydrocarbon (GC)	TCEQ	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID
TX_1005_S_Prep	Extraction - Texas Total petroleum Hyrdocarbons	TCEQ	XEN MID

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TCEQ = Texas Commission of Environmental Quality

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11795-1
SDG: 32.37988, -103.88687

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-11795-1	BH 06	Solid	02/25/22 15:00	02/28/22 16:34	1'
880-11795-2	BH 06C	Solid	02/25/22 15:15	02/28/22 16:34	4'

Chain of Custody

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 Carlsbad NM (575) 988-3199 Phoenix, AZ (480) 355-0900
Tampa FL (813) 620-2000 Tallahassee FL (850) 756-0747 Delray Beach FL (561) 689-6701
Atlanta GA (770) 449-8800

Work Order No: 11795

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Project Manager	Tacoma Morrissey	Bill to (if different)	Adrian Baker
Company Name	WSP USA	Company Name	XTO Energy
Address	3300 N A St, Bldg 1 Suite 222	Address	
City State ZIP	Midland, TX 79707	City State ZIP	
Phone	337-257-8307 Email		

Work Order Comments

Program UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project
Reporting Level II (5) Level III ☐ PST/US ☐ TRRP ☐ Level IV ☐
Deliverables EDD (☐) ADaPT ☐ Other

Project Name	JRU DI 1	Turn Around	
Project Number	31403236.020.0129	Routine	☐
Project Location	32.37988, -103.88687	Rush	☐
Sampler's Name	Nihaar Katoch	Due Date	5 day
PO #			

SAMPLE RECEIPT			
Temperature (°C)	5.6/5.5	Thermometer ID	IR8
Received Intact:	(Yes) No		
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-.1
Sample Custody Seals.	Yes No (N/A)	Total Containers	
Temp Blank	Yes (No)	Wet Ice	(Yes) No

ANALYSIS REQUEST

Preservative Codes

HNO3 HN
H2S04 H2
HCL HL
None NO
NaOH Na
MeOH Me
Zn Acetate+ NaOH Zn

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	TPH (1005)	BTEX (8021)	CHLORIDES (300)	Sample Comments
BH 06	SL	2-25-22	15:00	1'	1	X	X	X	
BH 06C	SL	2-25-22	15:15	4'	1	X	X	X	

880-11795 Chain of Custody

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		2/28/22 16:34	2		
3			4		
5			6		

Revised Date101419 Rev 2019 1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 880-11795-1
SDG Number: 32.37988, -103.88687

Login Number: 11795
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-11796-1
Laboratory Sample Delivery Group: 32.37988, -103.88687
Client Project/Site: JRU DI 1

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
3/7/2022 9:18:25 PM

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

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

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

Client: WSP USA Inc.
Project/Site: JRU DI 1

Laboratory Job ID: 880-11796-1
SDG: 32.37988, -103.88687

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-11796-1
Project/Site: JRU DI 1 SDG: 32.37988, -103.88687

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

Job ID: 880-11796-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-11796-1

Receipt
The samples were received on 2/28/2022 4:34 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 5.5°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-20669 and analytical batch 880-20859 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
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 DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

Client Sample ID: BH 05

Lab Sample ID: 880-11796-1
Matrix: Solid
Date Collected: 02/25/22 14:27
Date Received: 02/28/22 16:34
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:30	03/04/22 19:41	1
Toluene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:30	03/04/22 19:41	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:30	03/04/22 19:41	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		03/04/22 07:30	03/04/22 19:41	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		03/04/22 07:30	03/04/22 19:41	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		03/04/22 07:30	03/04/22 19:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*03/04/22 07:30*	*03/04/22 19:41*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/04/22 07:30*	*03/04/22 19:41*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			03/06/22 20:53	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		03/01/22 09:28	03/02/22 16:07	1
>C12-C28 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		03/01/22 09:28	03/02/22 16:07	1
>C28-C35 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		03/01/22 09:28	03/02/22 16:07	1
Total Petroleum Hydrocarbons (C6-C35)	<49.9	U	49.9		mg/Kg			03/03/22 08:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*132*	*S1+*	*70 - 130*	*03/01/22 09:28*	*03/02/22 16:07*	*1*
o-Terphenyl (Surr)	*134*	*S1+*	*70 - 130*	*03/01/22 09:28*	*03/02/22 16:07*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**141**		24.9		mg/Kg			03/03/22 19:33	5

Client Sample ID: BH 05C

Lab Sample ID: 880-11796-2
Matrix: Solid
Date Collected: 02/25/22 14:40
Date Received: 02/28/22 16:34
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		03/04/22 07:30	03/04/22 20:01	1
Toluene	<0.00198	U	0.00198		mg/Kg		03/04/22 07:30	03/04/22 20:01	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		03/04/22 07:30	03/04/22 20:01	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		03/04/22 07:30	03/04/22 20:01	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		03/04/22 07:30	03/04/22 20:01	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		03/04/22 07:30	03/04/22 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*03/04/22 07:30*	*03/04/22 20:01*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*03/04/22 07:30*	*03/04/22 20:01*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

Client Sample ID: BH 05C

Date Collected: 02/25/22 14:40
Date Received: 02/28/22 16:34
Sample Depth: 4'

Lab Sample ID: 880-11796-2

Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			03/06/22 20:53	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 16:28	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 16:28	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 16:28	1
Total Petroleum Hydrocarbons (C6-C35)	<50.0	U	50.0		mg/Kg			03/03/22 08:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*121*		*70 - 130*	*03/01/22 09:28*	*03/02/22 16:28*	*1*
o-Terphenyl (Surr)	*121*		*70 - 130*	*03/01/22 09:28*	*03/02/22 16:28*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**232**		25.0		mg/Kg			03/03/22 20:00	5

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

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)										
880-11740-A-1-I MS	Matrix Spike	80	101										
880-11740-A-1-J MSD	Matrix Spike Duplicate	105	100										
880-11796-1	BH 05	109	100										
880-11796-2	BH 05C	106	103										
LCS 880-20669/1-A	Lab Control Sample	94	100										
LCSD 880-20669/2-A	Lab Control Sample Dup	96	101										
MB 880-20669/5-A	Method Blank	97	100										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO	OTPH										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-11733-A-2-C MS	Matrix Spike	114	104										
880-11733-A-2-D MSD	Matrix Spike Duplicate	116	106										
880-11796-1	BH 05	132 S1+	134 S1+										
880-11796-2	BH 05C	121	121										
LCS 880-20584/2-A	Lab Control Sample	118	111										
LCSD 880-20584/3-A	Lab Control Sample Dup	116	111										
MB 880-20584/1-A	Method Blank	106	112										

Surrogate Legend

1CO = 1-Chlorooctane (Surr)

OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-20669/5-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 07:30	03/04/22 12:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/04/22 07:30	03/04/22 12:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/04/22 07:30*	*03/04/22 12:56*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/04/22 07:30*	*03/04/22 12:56*	*1*

Lab Sample ID: LCS 880-20669/1-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20669

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1051		mg/Kg		105	70 - 130		
Toluene			0.100	0.09641		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.09532		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.2204		mg/Kg		110	70 - 130		
o-Xylene			0.100	0.1072		mg/Kg		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-20669/2-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20669

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1089		mg/Kg		109	70 - 130	4	35
Toluene			0.100	0.09986		mg/Kg		100	70 - 130	4	35
Ethylbenzene			0.100	0.09805		mg/Kg		98	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2269		mg/Kg		113	70 - 130	3	35
o-Xylene			0.100	0.1112		mg/Kg		111	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-11740-A-1-I MS
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.101	0.07143		mg/Kg		71	70 - 130		
Toluene	<0.00199	U F2 F1	0.101	0.06327	F1	mg/Kg		62	70 - 130		

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

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

Lab Sample ID: 880-11740-A-1-I MS
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U F1	0.101	0.06285	F1	mg/Kg		62	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1445		mg/Kg		72	70 - 130
o-Xylene	<0.00199	U	0.101	0.07131		mg/Kg		71	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-11740-A-1-J MSD
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20669

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0998	0.1001		mg/Kg		100	70 - 130	33	35
Toluene	<0.00199	U F2 F1	0.0998	0.09162	F2	mg/Kg		91	70 - 130	37	35
Ethylbenzene	<0.00199	U F1	0.0998	0.08914		mg/Kg		89	70 - 130	35	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2065		mg/Kg		103	70 - 130	35	35
o-Xylene	<0.00199	U	0.0998	0.1009		mg/Kg		101	70 - 130	34	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Lab Sample ID: MB 880-20584/1-A
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20584

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 09:06	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 09:06	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 09:28	03/02/22 09:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*106*		*70 - 130*	*03/01/22 09:28*	*03/02/22 09:06*	*1*
o-Terphenyl (Surr)	*112*		*70 - 130*	*03/01/22 09:28*	*03/02/22 09:06*	*1*

Lab Sample ID: LCS 880-20584/2-A
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20584

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C12 Range Hydrocarbons	1000	930.5		mg/Kg		93	75 - 125
>C12-C28 Range Hydrocarbons	1000	1069		mg/Kg		107	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*118*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: LCS 880-20584/2-A
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20584

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl (Surr)	111		70 - 130

Lab Sample ID: LCSD 880-20584/3-A
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20584

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons			1000	880.7		mg/Kg		88	75 - 125	6	25
>C12-C28 Range Hydrocarbons			1000	987.4		mg/Kg		99	75 - 125	8	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane (Surr)	116		70 - 130
o-Terphenyl (Surr)	111		70 - 130

Lab Sample ID: 880-11733-A-2-C MS
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20584

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C12 Range Hydrocarbons	<50.0	U	995	1082		mg/Kg		109	75 - 125
>C12-C28 Range Hydrocarbons	<50.0	U	995	986.7		mg/Kg		99	75 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane (Surr)	114		70 - 130
o-Terphenyl (Surr)	104		70 - 130

Lab Sample ID: 880-11733-A-2-D MSD
Matrix: Solid
Analysis Batch: 20651

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 20584

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons	<50.0	U	998	1178		mg/Kg		118	75 - 125	9	25
>C12-C28 Range Hydrocarbons	<50.0	U	998	1018		mg/Kg		102	75 - 125	3	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane (Surr)	116		70 - 130
o-Terphenyl (Surr)	106		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20585/1-A
Matrix: Solid
Analysis Batch: 20705

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/03/22 18:14	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-20585/2-A
Matrix: Solid
Analysis Batch: 20705

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	258.2		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-20585/3-A
Matrix: Solid
Analysis Batch: 20705

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	258.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-11799-A-3-D MS
Matrix: Solid
Analysis Batch: 20705

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	1640		1250	3014		mg/Kg		110	90 - 110		

Lab Sample ID: 880-11799-A-3-E MSD
Matrix: Solid
Analysis Batch: 20705

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	1640		1250	2994		mg/Kg		108	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

GC VOA

Prep Batch: 20669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11796-1	BH 05	Total/NA	Solid	5035	
880-11796-2	BH 05C	Total/NA	Solid	5035	
MB 880-20669/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-20669/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-20669/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11740-A-1-I MS	Matrix Spike	Total/NA	Solid	5035	
880-11740-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 20859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11796-1	BH 05	Total/NA	Solid	8021B	20669
880-11796-2	BH 05C	Total/NA	Solid	8021B	20669
MB 880-20669/5-A	Method Blank	Total/NA	Solid	8021B	20669
LCS 880-20669/1-A	Lab Control Sample	Total/NA	Solid	8021B	20669
LCSD 880-20669/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	20669
880-11740-A-1-I MS	Matrix Spike	Total/NA	Solid	8021B	20669
880-11740-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	20669

Analysis Batch: 20986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11796-1	BH 05	Total/NA	Solid	Total BTEX	
880-11796-2	BH 05C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 20584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11796-1	BH 05	Total/NA	Solid	TX_1005_S_Prep	
880-11796-2	BH 05C	Total/NA	Solid	TX_1005_S_Prep	
MB 880-20584/1-A	Method Blank	Total/NA	Solid	TX_1005_S_Prep	
LCS 880-20584/2-A	Lab Control Sample	Total/NA	Solid	TX_1005_S_Prep	
LCSD 880-20584/3-A	Lab Control Sample Dup	Total/NA	Solid	TX_1005_S_Prep	
880-11733-A-2-C MS	Matrix Spike	Total/NA	Solid	TX_1005_S_Prep	
880-11733-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	TX_1005_S_Prep	

Analysis Batch: 20651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11796-1	BH 05	Total/NA	Solid	TX 1005	20584
880-11796-2	BH 05C	Total/NA	Solid	TX 1005	20584
MB 880-20584/1-A	Method Blank	Total/NA	Solid	TX 1005	20584
LCS 880-20584/2-A	Lab Control Sample	Total/NA	Solid	TX 1005	20584
LCSD 880-20584/3-A	Lab Control Sample Dup	Total/NA	Solid	TX 1005	20584
880-11733-A-2-C MS	Matrix Spike	Total/NA	Solid	TX 1005	20584
880-11733-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	TX 1005	20584

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

GC Semi VOA

Analysis Batch: 20754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11796-1	BH 05	Total/NA	Solid	TX 1005	
880-11796-2	BH 05C	Total/NA	Solid	TX 1005	

HPLC/IC

Leach Batch: 20585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11796-1	BH 05	Soluble	Solid	DI Leach	
880-11796-2	BH 05C	Soluble	Solid	DI Leach	
MB 880-20585/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20585/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20585/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11799-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11799-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 20705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11796-1	BH 05	Soluble	Solid	300.0	20585
880-11796-2	BH 05C	Soluble	Solid	300.0	20585
MB 880-20585/1-A	Method Blank	Soluble	Solid	300.0	20585
LCS 880-20585/2-A	Lab Control Sample	Soluble	Solid	300.0	20585
LCSD 880-20585/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20585
880-11799-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	20585
880-11799-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20585

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

Client Sample ID: BH 05

Lab Sample ID: 880-11796-1

Date Collected: 02/25/22 14:27
Matrix: Solid
Date Received: 02/28/22 16:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	20669	03/04/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/04/22 19:41	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			20986	03/06/22 20:53	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.02 g	10 mL	20584	03/01/22 09:28	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20651	03/02/22 16:07	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20754	03/03/22 08:18	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	20585	03/01/22 09:38	SC	XEN MID
Soluble	Analysis	300.0		5			20705	03/03/22 19:33	CH	XEN MID

Client Sample ID: BH 05C

Lab Sample ID: 880-11796-2

Date Collected: 02/25/22 14:40
Matrix: Solid
Date Received: 02/28/22 16:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	20669	03/04/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/04/22 20:01	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			20986	03/06/22 20:53	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.01 g	10 mL	20584	03/01/22 09:28	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20651	03/02/22 16:28	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20754	03/03/22 08:18	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	20585	03/01/22 09:38	SC	XEN MID
Soluble	Analysis	300.0		5			20705	03/03/22 20:00	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 880-11796-1
Project/Site: JRU DI 1 SDG: 32.37988, -103.88687

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	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
Total BTEX		Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 880-11796-1
Project/Site: JRU DI 1 SDG: 32.37988, -103.88687

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
TX 1005	Texas - Total Petroleum Hydrocarbon (GC)	TCEQ	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID
TX_1005_S_Prep	Extraction - Texas Total petroleum Hyrdocarbons	TCEQ	XEN MID

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TCEQ = Texas Commission of Environmental Quality

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11796-1
SDG: 32.37988, -103.88687

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-11796-1	BH 05	Solid	02/25/22 14:27	02/28/22 16:34	1'
880-11796-2	BH 05C	Solid	02/25/22 14:40	02/28/22 16:34	4'

Chain of Custody

Work Order No: 11796

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 Carlsbad NM (575) 988-3199 Phoenix AZ (480) 355-0900
Tampa FL (813) 620-2000 Tallahassee FL (850) 756-0747 Delray Beach FL (561) 689-6701
Atlanta GA (770) 449-8800
www.xenco.com

Project Manager	Tacoma Morrissey	Bill to (if different)	Adrian Baker
Company Name	WSP USA	Company Name	XTO Energy
Address	3300 N. A St, Bldg 1 Suite 222	Address	
City State ZIP	Midland, TX-79707	City State ZIP	
Phone	337-257-8307 Email	Email	Tacoma.Morrissey@wsp.com

Work Order Comments

Program UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project
Reporting Level (I) ☐ Level II ☐ PST/US ☐ TRRP ☐ Level IV ☐
Deliverables EDD (☐) ADaPT ☐ Other

Project Name	JRU DI 1	Turn Around	
Project Number	3140323 6.020.0129	Routine	☐
Project Location	32.387988, -103.88687	Rush	☐
Sampler's Name	Nihaan Katoch	Due Date	5day
PO #:			

SAMPLE RECEIPT			
Temp Blank	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C)	5.6/5.5	Thermometer ID	IR8
Received Intact:	(Yes) No		
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-.1
Sample Custody Seals	Yes No (N/A)	Total Containers	

ANALYSIS REQUEST

Preservative Codes

HNO3 HN
H2S04 H2
HCL HL
None NO
NaOH Na
MeOH Me
Zn Acetate+ NaOH Zn

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	TPH (1005)	BTEX (8021)	CHLORIDES (300)	Sample Comments
BH05	SL	2-25-22	14:27	1'	1	X	X	X	
BH05C	SL	2-25-22	14:40	4'	1	X	X	X	

880-11796 Chain of Custody

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		2/28/22 16:34	2		
3			4		
5			6		

Revised Date101419 Rev 2019 1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 880-11796-1
SDG Number: 32.37988, -103.88687

Login Number: 11796
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

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

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-11797-1
Laboratory Sample Delivery Group: 32.37988, -103.88687
Client Project/Site: JRU DI 1

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
3/7/2022 9:27:37 PM

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

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

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

Client: WSP USA Inc.
Project/Site: JRU DI 1

Laboratory Job ID: 880-11797-1
SDG: 32.37988, -103.88687

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-11797-1
Project/Site: JRU DI 1 SDG: 32.37988, -103.88687

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

Job ID: 880-11797-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-11797-1

Receipt
The samples were received on 2/28/2022 4:34 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 5.5°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
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 DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

Client Sample ID: BH 04

Lab Sample ID: 880-11797-1
Matrix: Solid
Date Collected: 02/25/22 13:53
Date Received: 02/28/22 16:34
Sample Depth: 1'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U F2 F1	0.00198		mg/Kg		03/06/22 11:20	03/07/22 00:19	1
Toluene	<0.00198	U F2 F1	0.00198		mg/Kg		03/06/22 11:20	03/07/22 00:19	1
Ethylbenzene	<0.00198	U F2 F1	0.00198		mg/Kg		03/06/22 11:20	03/07/22 00:19	1
m-Xylene & p-Xylene	<0.00397	U F2 F1	0.00397		mg/Kg		03/06/22 11:20	03/07/22 00:19	1
o-Xylene	<0.00198	U F2 F1	0.00198		mg/Kg		03/06/22 11:20	03/07/22 00:19	1
Xylenes, Total	<0.00397	U F2 F1	0.00397		mg/Kg		03/06/22 11:20	03/07/22 00:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*03/06/22 11:20*	*03/07/22 00:19*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/06/22 11:20*	*03/07/22 00:19*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			03/07/22 10:04	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 11:03	03/02/22 19:43	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 11:03	03/02/22 19:43	1
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 11:03	03/02/22 19:43	1
Total Petroleum Hydrocarbons (C6-C35)	<50.0	U	50.0		mg/Kg			03/03/22 08:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*106*		*70 - 130*	*03/01/22 11:03*	*03/02/22 19:43*	*1*
o-Terphenyl (Surr)	*107*		*70 - 130*	*03/01/22 11:03*	*03/02/22 19:43*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**264**		4.96		mg/Kg			03/04/22 10:19	1

Client Sample ID: BH 04C

Lab Sample ID: 880-11797-2
Matrix: Solid
Date Collected: 02/25/22 14:06
Date Received: 02/28/22 16:34
Sample Depth: 4'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/07/22 00:39	1
Toluene	**0.00295**		0.00200		mg/Kg		03/06/22 11:20	03/07/22 00:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/07/22 00:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/06/22 11:20	03/07/22 00:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/07/22 00:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/06/22 11:20	03/07/22 00:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*249*	*S1+*	*70 - 130*	*03/06/22 11:20*	*03/07/22 00:39*	*1*
1,4-Difluorobenzene (Surr)	*227*	*S1+*	*70 - 130*	*03/06/22 11:20*	*03/07/22 00:39*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

Client Sample ID: BH 04C

Date Collected: 02/25/22 14:06
Date Received: 02/28/22 16:34
Sample Depth: 4'

Lab Sample ID: 880-11797-2

Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			03/07/22 10:04	1

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		03/01/22 11:03	03/02/22 20:44	1
>C12-C28 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		03/01/22 11:03	03/02/22 20:44	1
>C28-C35 Range Hydrocarbons	<49.9	U	49.9		mg/Kg		03/01/22 11:03	03/02/22 20:44	1
Total Petroleum Hydrocarbons (C6-C35)	<49.9	U	49.9		mg/Kg			03/03/22 08:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*114*		*70 - 130*	*03/01/22 11:03*	*03/02/22 20:44*	*1*
o-Terphenyl (Surr)	*112*		*70 - 130*	*03/01/22 11:03*	*03/02/22 20:44*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**136**		5.02		mg/Kg			03/04/22 10:28	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

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)
880-11797-1	BH 04	106	100
880-11797-1 MS	BH 04	102	87
880-11797-1 MSD	BH 04	105	103
880-11797-2	BH 04C	249 S1+	227 S1+
LCS 880-20688/1-A	Lab Control Sample	97	103
LCSD 880-20688/2-A	Lab Control Sample Dup	99	101
MB 880-20688/5-A	Method Blank	100	98
MB 880-20897/5-A	Method Blank	95	98

Surrogate Legend

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

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO (70-130)	OTPH (70-130)
880-11797-1	BH 04	106	107
880-11797-1 MS	BH 04	111	93
880-11797-1 MSD	BH 04	113	96
880-11797-2	BH 04C	114	112
LCS 880-20603/2-A	Lab Control Sample	120	101
LCSD 880-20603/3-A	Lab Control Sample Dup	114	97
MB 880-20603/1-A	Method Blank	126	128

Surrogate Legend

1CO = 1-Chlorooctane (Surr)
OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-20688/5-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20688

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/06/22 11:20	03/06/22 23:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/06/22 11:20	03/06/22 23:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*03/06/22 11:20*	*03/06/22 23:50*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/06/22 11:20*	*03/06/22 23:50*	*1*

Lab Sample ID: LCS 880-20688/1-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1076		mg/Kg		108	70 - 130
Toluene	0.100	0.1007		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.09908		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.2300		mg/Kg		115	70 - 130
o-Xylene	0.100	0.1125		mg/Kg		112	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 880-20688/2-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20688

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1036		mg/Kg		104	70 - 130	4	35
Toluene	0.100	0.09620		mg/Kg		96	70 - 130	5	35
Ethylbenzene	0.100	0.09579		mg/Kg		96	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.2221		mg/Kg		111	70 - 130	3	35
o-Xylene	0.100	0.1103		mg/Kg		110	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-11797-1 MS
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: BH 04
Prep Type: Total/NA
Prep Batch: 20688

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00198	U F2 F1	0.0990	0.03681	F1	mg/Kg		36	70 - 130
Toluene	<0.00198	U F2 F1	0.0990	0.04011	F1	mg/Kg		39	70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

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

Lab Sample ID: 880-11797-1 MS
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: BH 04
Prep Type: Total/NA
Prep Batch: 20688

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00198	U F2 F1	0.0990	0.04279	F1	mg/Kg		43	70 - 130
m-Xylene & p-Xylene	<0.00397	U F2 F1	0.198	0.09448	F1	mg/Kg		48	70 - 130
o-Xylene	<0.00198	U F2 F1	0.0990	0.04736	F1	mg/Kg		48	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: 880-11797-1 MSD
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: BH 04
Prep Type: Total/NA
Prep Batch: 20688

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U F2 F1	0.0992	0.08934	F2	mg/Kg		89	70 - 130	83	35
Toluene	<0.00198	U F2 F1	0.0992	0.08271	F2	mg/Kg		82	70 - 130	69	35
Ethylbenzene	<0.00198	U F2 F1	0.0992	0.08084	F2	mg/Kg		81	70 - 130	62	35
m-Xylene & p-Xylene	<0.00397	U F2 F1	0.198	0.1874	F2	mg/Kg		94	70 - 130	66	35
o-Xylene	<0.00198	U F2 F1	0.0992	0.09159	F2	mg/Kg		92	70 - 130	64	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: MB 880-20897/5-A
Matrix: Solid
Analysis Batch: 20859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20897

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/04/22 12:13	03/06/22 12:14	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/04/22 12:13	03/06/22 12:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*03/04/22 12:13*	*03/06/22 12:14*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/04/22 12:13*	*03/06/22 12:14*	*1*

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC)

Lab Sample ID: MB 880-20603/1-A
Matrix: Solid
Analysis Batch: 20653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20603

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 11:03	03/02/22 18:42	1
>C12-C28 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 11:03	03/02/22 18:42	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: MB 880-20603/1-A
Matrix: Solid
Analysis Batch: 20653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20603

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
>C28-C35 Range Hydrocarbons	<50.0	U	50.0		mg/Kg		03/01/22 11:03	03/02/22 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane (Surr)	*126*		*70 - 130*	*03/01/22 11:03*	*03/02/22 18:42*	*1*
o-Terphenyl (Surr)	*128*		*70 - 130*	*03/01/22 11:03*	*03/02/22 18:42*	*1*

Lab Sample ID: LCS 880-20603/2-A
Matrix: Solid
Analysis Batch: 20653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20603

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C12 Range Hydrocarbons			1000	984.3		mg/Kg		98	75 - 125		
>C12-C28 Range Hydrocarbons			1000	1064		mg/Kg		106	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*120*		*70 - 130*
o-Terphenyl (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-20603/3-A
Matrix: Solid
Analysis Batch: 20653

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20603

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons			1000	953.4		mg/Kg		95	75 - 125	3	25
>C12-C28 Range Hydrocarbons			1000	1035		mg/Kg		103	75 - 125	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane (Surr)	*114*		*70 - 130*
o-Terphenyl (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-11797-1 MS
Matrix: Solid
Analysis Batch: 20653

Client Sample ID: BH 04
Prep Type: Total/NA
Prep Batch: 20603

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C12 Range Hydrocarbons	<50.0	U	995	1037		mg/Kg		101	75 - 125		
>C12-C28 Range Hydrocarbons	<50.0	U	995	1035		mg/Kg		101	75 - 125		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane (Surr)	*111*		*70 - 130*
o-Terphenyl (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-11797-1 MSD
Matrix: Solid
Analysis Batch: 20653

Client Sample ID: BH 04
Prep Type: Total/NA
Prep Batch: 20603

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12 Range Hydrocarbons	<50.0	U	998	1055		mg/Kg		102	75 - 125	2	25

Eurofins Midland

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

Method: TX 1005 - Texas - Total Petroleum Hydrocarbon (GC) (Continued)

Lab Sample ID: 880-11797-1 MSD
Matrix: Solid
Analysis Batch: 20653

Client Sample ID: BH 04
Prep Type: Total/NA
Prep Batch: 20603

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
>C12-C28 Range Hydrocarbons	<50.0	U	998	1079		mg/Kg		106	75 - 125	4	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane (Surr)	*113*		*70 - 130*
o-Terphenyl (Surr)	*96*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20585/1-A
Matrix: Solid
Analysis Batch: 20705

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/03/22 18:14	1

Lab Sample ID: LCS 880-20585/2-A
Matrix: Solid
Analysis Batch: 20705

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	258.2		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-20585/3-A
Matrix: Solid
Analysis Batch: 20705

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	258.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-11799-A-3-D MS
Matrix: Solid
Analysis Batch: 20705

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	1640		1250	3014		mg/Kg		110	90 - 110

Lab Sample ID: 880-11799-A-3-E MSD
Matrix: Solid
Analysis Batch: 20705

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	1640		1250	2994		mg/Kg		108	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

GC VOA

Prep Batch: 20688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11797-1	BH 04	Total/NA	Solid	5035	
880-11797-2	BH 04C	Total/NA	Solid	5035	
MB 880-20688/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-20688/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-20688/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11797-1 MS	BH 04	Total/NA	Solid	5035	
880-11797-1 MSD	BH 04	Total/NA	Solid	5035	

Analysis Batch: 20859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11797-1	BH 04	Total/NA	Solid	8021B	20688
880-11797-2	BH 04C	Total/NA	Solid	8021B	20688
MB 880-20688/5-A	Method Blank	Total/NA	Solid	8021B	20688
MB 880-20897/5-A	Method Blank	Total/NA	Solid	8021B	20897
LCS 880-20688/1-A	Lab Control Sample	Total/NA	Solid	8021B	20688
LCSD 880-20688/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	20688
880-11797-1 MS	BH 04	Total/NA	Solid	8021B	20688
880-11797-1 MSD	BH 04	Total/NA	Solid	8021B	20688

Prep Batch: 20897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-20897/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 21019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11797-1	BH 04	Total/NA	Solid	Total BTEX	
880-11797-2	BH 04C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 20603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11797-1	BH 04	Total/NA	Solid	TX_1005_S_Prep	
880-11797-2	BH 04C	Total/NA	Solid	TX_1005_S_Prep	
MB 880-20603/1-A	Method Blank	Total/NA	Solid	TX_1005_S_Prep	
LCS 880-20603/2-A	Lab Control Sample	Total/NA	Solid	TX_1005_S_Prep	
LCSD 880-20603/3-A	Lab Control Sample Dup	Total/NA	Solid	TX_1005_S_Prep	
880-11797-1 MS	BH 04	Total/NA	Solid	TX_1005_S_Prep	
880-11797-1 MSD	BH 04	Total/NA	Solid	TX_1005_S_Prep	

Analysis Batch: 20653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11797-1	BH 04	Total/NA	Solid	TX 1005	20603
880-11797-2	BH 04C	Total/NA	Solid	TX 1005	20603
MB 880-20603/1-A	Method Blank	Total/NA	Solid	TX 1005	20603
LCS 880-20603/2-A	Lab Control Sample	Total/NA	Solid	TX 1005	20603

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

GC Semi VOA (Continued)

Analysis Batch: 20653 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-20603/3-A	Lab Control Sample Dup	Total/NA	Solid	TX 1005	20603
880-11797-1 MS	BH 04	Total/NA	Solid	TX 1005	20603
880-11797-1 MSD	BH 04	Total/NA	Solid	TX 1005	20603

Analysis Batch: 20765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11797-1	BH 04	Total/NA	Solid	TX 1005	
880-11797-2	BH 04C	Total/NA	Solid	TX 1005	

HPLC/IC

Leach Batch: 20585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11797-1	BH 04	Soluble	Solid	DI Leach	
880-11797-2	BH 04C	Soluble	Solid	DI Leach	
MB 880-20585/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20585/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20585/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11799-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11799-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 20705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11797-1	BH 04	Soluble	Solid	300.0	20585
880-11797-2	BH 04C	Soluble	Solid	300.0	20585
MB 880-20585/1-A	Method Blank	Soluble	Solid	300.0	20585
LCS 880-20585/2-A	Lab Control Sample	Soluble	Solid	300.0	20585
LCSD 880-20585/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20585
880-11799-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	20585
880-11799-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20585

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

Client Sample ID: BH 04

Date Collected: 02/25/22 13:53
Date Received: 02/28/22 16:34

Lab Sample ID: 880-11797-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	20688	03/06/22 11:20	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/07/22 00:19	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			21019	03/07/22 10:04	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.01 g	10 mL	20603	03/01/22 11:03	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20653	03/02/22 19:43	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20765	03/03/22 08:28	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	20585	03/01/22 09:38	SC	XEN MID
Soluble	Analysis	300.0		1			20705	03/04/22 10:19	CH	XEN MID

Client Sample ID: BH 04C

Date Collected: 02/25/22 14:06
Date Received: 02/28/22 16:34

Lab Sample ID: 880-11797-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	20688	03/06/22 11:20	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	20859	03/07/22 00:39	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			21019	03/07/22 10:04	AJ	XEN MID
Total/NA	Prep	TX_1005_S_Prep			10.02 g	10 mL	20603	03/01/22 11:03	DM	XEN MID
Total/NA	Analysis	TX 1005		1			20653	03/02/22 20:44	AJ	XEN MID
Total/NA	Analysis	TX 1005		1			20765	03/03/22 08:28	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	20585	03/01/22 09:38	SC	XEN MID
Soluble	Analysis	300.0		1			20705	03/04/22 10:28	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 880-11797-1
Project/Site: JRU DI 1 SDG: 32.37988, -103.88687

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	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
Total BTEX		Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 880-11797-1
Project/Site: JRU DI 1 SDG: 32.37988, -103.88687

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
TX 1005	Texas - Total Petroleum Hydrocarbon (GC)	TCEQ	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID
TX_1005_S_Prep	Extraction - Texas Total petroleum Hyrdocarbons	TCEQ	XEN MID

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TCEQ = Texas Commission of Environmental Quality

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: JRU DI 1

Job ID: 880-11797-1
SDG: 32.37988, -103.88687

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-11797-1	BH 04	Solid	02/25/22 13:53	02/28/22 16:34	1'
880-11797-2	BH 04C	Solid	02/25/22 14:06	02/28/22 16:34	4'

Chain of Custody

Work Order No: 11797

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 Carlsbad NM (575) 988-3199 Phoenix, AZ (480) 355-0900
Tampa FL (813) 620-2000 Tallahassee FL (850) 756-0747 Delray Beach FL (561) 689-6701
Atlanta GA (770) 449-8800

www.xenco.com Page 1 of 1

Project Manager	Tacoma Morrissey	Bill to (if different)	Adrian Baker
Company Name	WSP USA	Company Name	XTO Energy
Address	3300 N A St. Bldg 1 Suite 222	Address.	
City, State ZIP	Midland, TX-79707	City State ZIP	
Phone	337-257-8307 Email	Tacoma.Morrissey@wsp.com	

Work Order Comments

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

Project Name	JRU DI 1	Turn Around	
Project Number	31403236.020.0129	Routine ☐	
Project Location	32.37988, -103.88687	Rush ☐	
Sampler's Name	Nihaar Katoch	Due Date 5 day	
PO #:			

SAMPLE RECEIPT			
Temp Blank	Yes (No)	Wet Ice	(Yes) No
Temperature (°C)	5.6/5.5	Thermometer ID	IR8
Received Intact:	(Yes) No		
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-.1
Sample Custody Seals.	Yes No N/A	Total Containers	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	TPH (1005)	BTEX (8021)	CHLORIDES (300)
BH 04	SL	2-25-22	13:53	1'	1	X	X	X
BH 04C	SL	2-25-22	14:06	4'	1	X	X	X

ANALYSIS REQUEST

Preservative Codes

HNO3 HN
H2S04 H2
HCL HL
None NO
NaOH Na
MeOH Me
Zn Acetate+ NaOH Zn

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

Sample Comments

880-11797 Chain of Custody

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		2/28/22 16:34	2		
3			4		
5			6		

Revised Date 101419 Rev 2019 1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 880-11797-1
SDG Number: 32.37988, -103.88687

Login Number: 11797
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

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

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 91314

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 91314
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Deferral Request Approved. Please implement 19.15.29.13 NMAC when completing P&A. For depth to groundwater determination, please use wells within 0.5 miles of site and <25 years old.	3/22/2022