

## NM OIL CONSERVATION

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

ARTESIA DISTRICT

JAN 22 2018

RECEIVED

State of New Mexico

NM OIL CONSERVATION

ARTESIA DISTRICT

Energy Minerals and Natural Resources

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

JAN 22 2018

RECEIVED

Form C-141  
Revised April 3, 2017Submit Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

NAB1802427813

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy 5380	Contact: Kyle Littrell
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No: 432-221-7331
Facility Name: Remuda Basin State #2	Facility Type: Exploration and Production

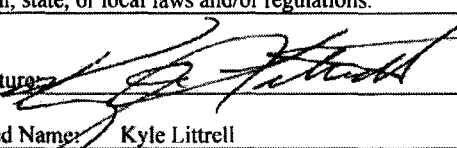
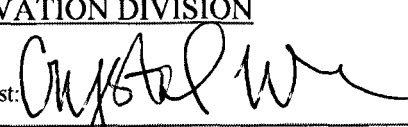
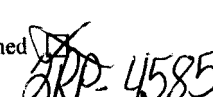
Surface Owner: State of NM	Mineral Owner: State of NM	API No: 30-015-28400
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## LOCATION OF RELEASE

Unit Letter K	Section 19	Township 23S	Range 30E	Feet from the 2075	North/South Line South	Feet from the 1960	East/West Line West	County Eddy
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Latitude 32.288820° Longitude -103.923228° NAD83

## NATURE OF RELEASE

Type of Release Illegal Dumping - Oil, Cement, Water	Volume of Release 10 bbls	Volume Recovered 0 bbls
Source of Release Unknown	Date and Hour of Occurrence 1/9/2018 time unknown	Date and Hour of Discovery 1/9/2018 1:30 pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour: N/A	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* Lease operator arrived onsite to find multiple areas of fluids dumped on location from an unknown source. New Mexico State Police were contacted and a site visit was performed and case #NMSPR1800615 was issued.		
Describe Area Affected and Cleanup Action Taken.* The dumped areas affected the well pad, pasture and reserve pit to the northwest and southwest of the well pad. The stained area of the well pad was back-dragged and an environmental contractor was retained to assist with remediation efforts.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.		
Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Kyle Littrell	Approved by Environmental Specialist: 	
Title: Environmental Coordinator	Approval Date: 1/25/18	Expiration Date: N/A
E-mail Address: Kyle.Littrell@xtocenergy.com	Conditions of Approval: see attached	Attached: 
Date: 1/22/2018 Phone: 432-221-7331		

\* Attach Additional Sheets If Necessary

1/25/18 AB

District I  
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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	NAB1802927873
District RP	2RP-4585
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party: XTO Energy, Inc.	OGRID: 5380
Contact Name:	Contact Telephone:
Contact email:	Incident #: NAB1802927873
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

### Location of Release Source

Latitude 32.288820 Longitude -103.923228  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Remuda Basin State #2	Site Type Exploration and Production
Date Release Discovered January 9, 2018, 1:30 P.M.	API# (if applicable) 30-015-28400

Unit Letter	Section	Township	Range	County
K	19	23S	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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input checked="" type="checkbox"/> Other (describe) Oil, Cement, Water mix	Volume/Weight Released (provide units) 10 bbls	Volume/Weight Recovered (provide units) 0.0 bbls

#### Cause of Release


A lease operator arrived onsite to find multiple areas of fluids dumped on location from an unknown source. New Mexico State Police were contacted, and a case was issued. The dumped areas affected the well pad, pasture, and reserve pit. The stained area of the well pad was dragged.

Incident ID	NAB1802927873
District RP	2RP-4585
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD?	

### Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Garrett Green</u>	Title: <u>Environmental Coordinator</u>
Signature: <u></u>	Date: <u>6-30-2022</u>
email: <u>garrett.green@exxonmobil.com</u>	Telephone: <u>575-200-0729</u>
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____

Incident ID	NAB1802927873
District RP	2RP-4585
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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?	<u>50-100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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



State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	NAB1802927873
District RP	2RP-4585
Facility ID	
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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: Garrett GreenTitle: Environmental CoordinatorSignature: Date: 6-30-2022email: garrett.green@exxonmobil.comTelephone: 575-200-0729**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

Incident ID	NAB1802927873
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Application ID	

## Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Garrett Green

Title: Environmental Coordinator

Signature: 

Date: 6-30-2022

email: garrett.green@exxonmobil.com

Telephone: 575-200-0729

### OCD Only

Received by: OCD

Date: 7/8/2022

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

Closure Approved by:  Date: 9/22/2022

Printed Name: Ashley Maxwell

Title: Environmental Specialist



July 1, 2022

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

**Re: Closure Request Addendum  
Remuda Basin State #2  
Incident Number NAB1802927873  
Eddy County, New Mexico**

To Whom it May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared the following addendum to the original Closure Request submitted on May 6, 2020. This addendum details the additional remediation activities completed at the Remuda Basin State #2 (Site) in response to the denial of the original Closure Request by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD indicated that the Site was located in a high-potential karst area and the most stringent Table 1 Closure Criteria applied. Based on the additional remediation activities described below, XTO is submitting this Closure Request Addendum and requesting closure for Incident Number NAB1802927873.

## BACKGROUND

The Site is located in in Unit K, Section 19, Township 23 South, Range 30 East, in Eddy County, New Mexico (32.288820 °N, -103.923228 °W) and is associated with oil and gas exploration and production operations on New Mexico State Land.

On January 9, 2018, a lease operator arrived onsite to find multiple areas where fluids had been dumped on the Site from an unknown source. The New Mexico State Police were contacted, and a case number was issued. The release from the illegal dumping affected the well pad, pasture, and historical reserve pit. Approximately 10 barrels (bbls) of oil, cement, and water were released. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on January 22, 2018. The release was assigned Incident Number NAB1802927873.

Between October 2019 and March 2020, XTO conducted assessment, delineation, and excavation activities in response to the release. An estimated 287 cubic yards of impacted soil were excavated from the Site. Based on the site assessment activities and laboratory analytical results from the soil sampling events, XTO submitted a Closure Request on May 6, 2020, requesting no further action (NFA) for the release.

The Closure Request detailed site characterization 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). Results from the site characterization are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Based on the site characterization and a pedestrian karst survey conducted at the Site, the following NMOCD Table 1 Closure Criteria (Closure Criteria) were applied:

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

On July 9, 2020, NMOCD denied the Closure Request for Incident Number NAB1802927873 for the following reasons:

- *There is a specific process to have BLM change a karst designation. The OCD follows the BLM, when it comes to karst. The BLM puts together and updates the karst maps. If a site shows as high karst under the current map, that is what we go off of. Ideally, you would need to send your karst study to the BLM and try to get high karst potential downgraded to medium in this particular area. If they do make changes to the map, let us know and we will honor their decision.*
- *The entire spill area is in high karst, so the closure criteria that would apply is 600 mg/kg on Chlorides and 100 mg/kg on TPH. Please make sure all floor samples and sidewall samples are below these limits.*

During December 2021, final abandonment of the Site began. Once the well was abandoned and all production equipment and pipelines were removed from the Site, final remediation of the Site was scheduled. In response to the denial of the original Closure Request, the following Closure Criteria were applied during the final remediation/reclamation activities.

- Benzene: 10 mg/kg
- BTEX: 50 mg/kg
- TPH: 100 mg/kg
- Chloride: 600 mg/kg

## DELINEATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

Delineation activities were conducted at the Site during January and February 2022. Potholes PH01 through PH15 (initially advanced during 2019) were deepened, and potholes PH16 through PH18 were advanced to delineate the lateral and vertical extent of impacted soil identified during the 2019/2020 assessment and excavation activities and documented in the original May 2020 Closure Request.

The potholes were advanced to depths ranging from 4 feet to 20 feet bgs. Delineation soil samples were collected from each pothole from depths ranging from 1-foot to 20 feet bgs. Soil from the potholes was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix A. The pothole and delineation soil sample locations are depicted on Figure 2.

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

Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH18 indicated that chloride concentrations exceeded the Closure Criteria at depths ranging from 1-foot to 5 feet to 7 feet bgs in most areas, and as deep as 16 feet bgs in one location at PH16. The terminal depth sample from each pothole was compliant with the Closure Criteria and provided vertical delineation of the chloride impacted soil at depths ranging from 4 feet to 20 feet bgs.

Laboratory analytical results for the delineation samples collected from potholes PH03 and PH04, located near the northwest portion of the pad, indicated that TPH concentrations exceeded the Closure Criteria. The TPH impacts extended to a depth of 3 feet bgs in pothole PH03 and 5 feet bgs in pothole PH04. No hydrocarbon impacts were identified in any of the other potholes advanced at the Site.

Based on laboratory analytical results for the delineation soil samples, additional remediation activities were warranted.

### EXCAVATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

Based on the volume of chloride impacted soil identified below 4 feet bgs and vertical delineation of the impacted soil at 18 locations across the well pad, XTO proceeded to excavate the top four feet of soil from the entire well pad and install a 20-mil impermeable liner in the floor of the excavation to mitigate further chloride impacts into the subsurface. The TPH impacted soil identified near pothole PH03 was excavated to a depth of 4 feet bgs. The TPH impacted soil identified near pothole PH04 was excavated to a depth of 6 feet bgs. Pothole PH04 was located north of the well pad and was the only excavation area not included within the liner extent. Photographic documentation of the excavation activities is included in Appendix B.

Following removal of the impacted soil, 5-point composite soil samples were collected from the sidewalls of both excavations and from the floor of the unlined 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. Composite sidewall samples SW01 through SW03 and composite floor samples FS01 and FS02 were collected from the excavation north of the pad near pothole PH04, from depths ranging from the ground surface to 6 feet bgs.

Composite samples SW03 through SW27 were collected from the sidewalls of the lined well pad excavation from depths ranging from the ground surface to 4 feet bgs. Floor samples were not collected since a liner was installed in the floor of the excavation and the delineation potholes provided vertical delineation of the chloride impacted soil at 18 locations across the pad. The soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extents, liner extent, and excavation soil sample locations are presented on Figure 2.

The excavation area measured approximately 60,000 square feet. A total of approximately 12,720 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico.

Laboratory analytical results for excavation sidewall samples SW01 through SW27 and excavation floor samples FS01 and FS02 indicated that benzene, BTEX, TPH, and chloride concentrations were compliant with the most stringent Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix C.

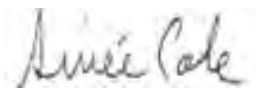
## CLOSURE REQUEST

Site assessment, excavation, and liner installation activities were conducted at the Site to address the January 9, 2018, illegal dumping event. Laboratory analytical results for the excavation sidewall samples indicated that benzene, BTEX, TPH, and chloride concentrations were compliant with the most stringent Table 1 Closure Criteria in the top four feet. Upon completion of the excavation activities, a 20-mil impermeable liner was installed at 4 feet bgs over the deeper chloride impacted soil to mitigate further impacts to the subsurface. Based on the soil sample analytical results and installation of the impermeable liner, no further remediation was required. XTO backfilled the excavation with material purchased locally and recontoured the Site to match pre-existing site conditions. The reclaimed well pad was re-seeded with an approved BLM seed mixture.

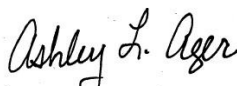
Excavation of impacted soil from the top four feet and installation of an impermeable liner in the floor of the excavation has mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 50 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAB1802927873.

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or [acole@ensolum.com](mailto:acole@ensolum.com).

Sincerely,  
**Ensolum, LLC**



Aimee Cole  
Senior Managing Scientist



Ashley L. Ager, M.S., P.G.  
Program Director

cc: Garrett Green, XTO  
New Mexico State Land Office

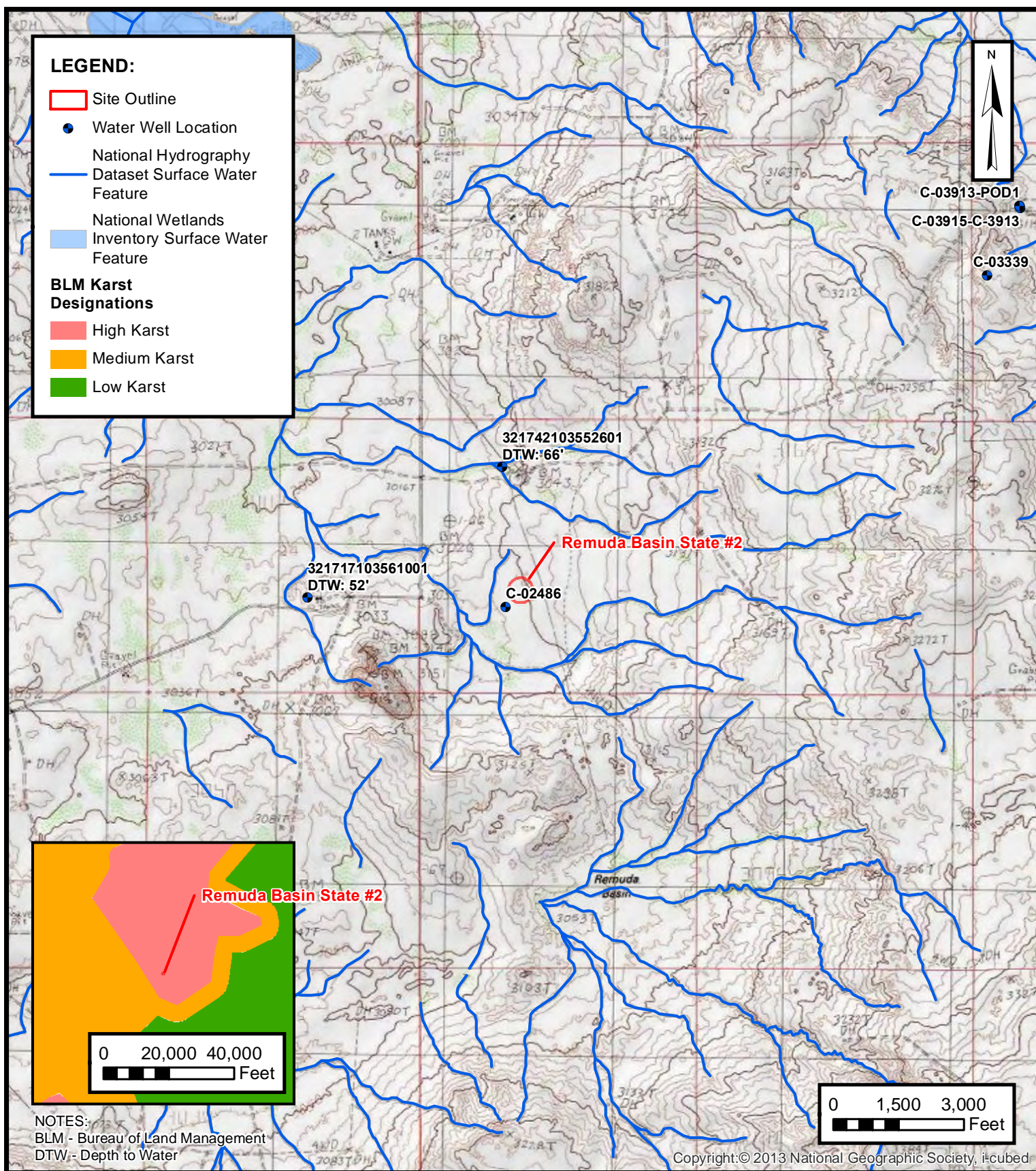
### Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation and Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Lithologic Soil Sampling Logs
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix D	NMOCD Notifications

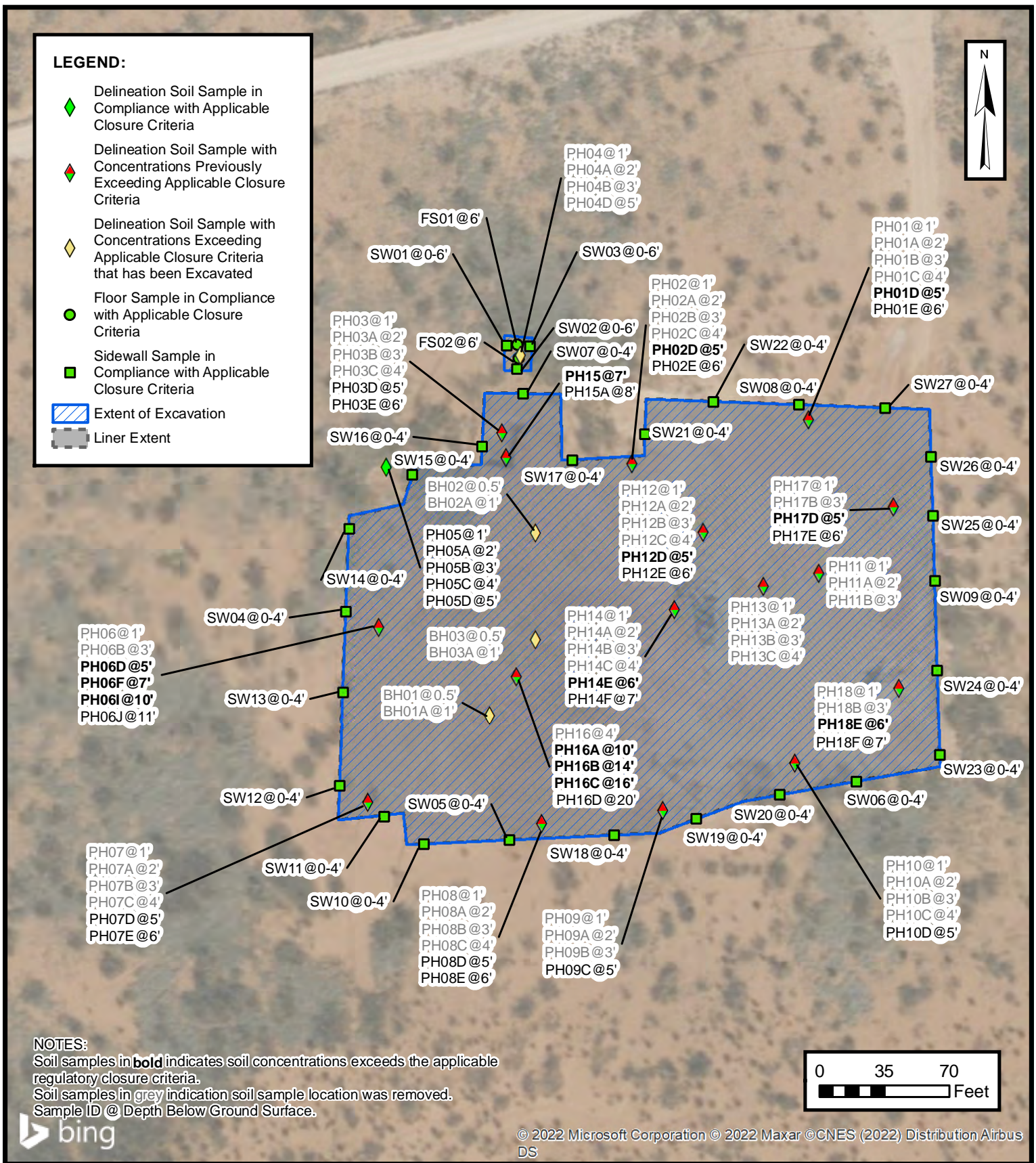




FIGURES







# **DELINEATION AND EXCAVATION SOIL SAMPLE LOCATIONS**

XTO ENERGY, INC  
 REMUDA BASIN STATE #2  
 NAB1802927873  
 Unit K, Sec 19, T23S, R30E  
 Eddy County, New Mexico

**FIGURE**  
**2**



TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Remuda Basin State #2 / Incident ID NAB1802927873  
 XTO Energy, Inc.  
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
Delineation Soil Samples										
PH01	1	10/29/2019	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	778
PH01A	2	10/29/2019	<0.000994	<0.000994	<50.1	<50.1	<50.1	<50.1	<50.1	958
PH01B	3	10/29/2019	<0.000998	<0.000998	<50.3	<50.3	<50.3	<50.3	<50.3	1,110
PH01C	4	10/29/2019	<0.00101	<0.00101	<49.9	<49.9	<49.9	<49.9	<49.9	852
PH01D	5	02/15/2022	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	1,120
PH01E	6	02/15/2022	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	24.2
PH02	1	10/29/2019	<0.000994	<0.000994	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
PH02A	2	10/29/2019	<0.000998	0.00512	<50.1	<50.1	<50.1	<50.1	<50.1	71.8
PH02B	3	10/29/2019	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	881
PH02C	4	10/29/2019	<0.00101	<0.00101	<50.0	<50.0	<50.0	<50.0	<50.0	1,500
PH02D	5	10/29/2019	<0.000994	<0.000994	<49.9	<49.9	<49.9	<49.9	<49.9	841
PH02E	6	10/29/2019	<0.00100	<0.00100	<50.0	<50.0	<50.0	<50.0	<50.0	511
PH03	1	10/29/2019	<0.00101	<0.00101	<50.2	412	80.6	412	493	709
PH03A	2	10/29/2019	<0.000992	<0.000992	<50.0	1350	253	1,350	1,600	417
PH03B	3	10/29/2019	<0.000990	0.00465	<50.1	230	<50.1	230	230	299
PH03C	4	10/29/2019	<0.00100	<0.00100	<49.8	68.7	<49.8	68.7	68.7	582
PH03D	5	10/29/2019	<0.000992	<0.000992	<50.0	<50.0	<50.0	<50.0	<50.0	581
PH03E	6	10/29/2019	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	462
PH04	1	10/29/2019	<0.000998	0.00635	<50.1	162	<50.1	162	162	<9.98
PH04A	2	10/29/2019	<0.000998	<0.000998	<50.3	137	<50.3	137	137	<10.1
PH04B	3	01/12/2022	<0.00200	<0.00400	<50.0	60.8	<50.0	60.8	60.8	82.3
PH04D	5	01/12/2022	<0.00199	<0.00398	<49.9	453	<49.9	453	453	11.2
PH05	1	10/29/2019	<0.00100	<0.00100	<50.0	<50.0	<50.0	<50.0	<50.0	<9.96
PH05A	2	10/29/2019	<0.000994	<0.000994	<50.3	<50.3	<50.3	<50.3	<50.3	<10.1
PH05B	3	10/29/2019	<0.00100	<0.00100	<50.1	<50.1	<50.1	<50.1	<50.1	112
PH05C	4	10/29/2019	<0.00101	<0.00101	<50.3	<50.3	<50.3	<50.3	<50.3	42.9
PH05D	5	10/29/2019	<0.000998	<0.000998	<50.0	<50.0	<50.0	<50.0	<50.0	50.1



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Remuda Basin State #2 / Incident ID NAB1802927873  
 XTO Energy, Inc.  
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
PH06	1	10/29/2019	<0.00100	<0.00100	<50.3	<50.3	<50.3	<50.3	<50.3	82.8
PH06B	3	10/29/2019	<0.00100	<0.00100	<49.9	<49.9	<49.9	<49.9	<49.9	753
PH06D	5	10/29/2019	<0.000998	<0.000998	<50.1	<50.1	<50.1	<50.1	<50.1	2,600
PH06F	7	10/29/2019	<0.000994	<0.000994	<50.3	<50.3	<50.3	<50.3	<50.3	958
PH06I	10	01/13/2022	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	1,240
PH06J	11	01/24/2022	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	225
PH07	1	10/29/2019	<0.00100	<0.00100	<50.3	<50.3	<50.3	<50.3	<50.3	1,600
PH07A	2	10/29/2019	<0.00101	0.00483	<50.2	<50.2	<50.2	<50.2	<50.2	1,130
PH07B	3	10/29/2019	<0.000992	0.00773	<49.9	<49.9	<49.9	<49.9	<49.9	236
PH07C	4	10/29/2019	<0.00100	<0.00100	<50.0	<50.0	<50.0	<50.0	<50.0	730
PH07D	5	10/29/2019	<0.000996	<0.000996	<50.1	<50.1	<50.1	<50.1	<50.1	214
PH07E	6	10/29/2019	<0.000998	<0.000998	<50.2	<50.2	<50.2	<50.2	<50.2	51.7
PH08	1	10/30/2019	<0.000998	<0.000998	<50.3	<50.3	<50.3	<50.3	<50.3	1,330
PH08A	2	10/30/2019	<0.00101	<0.00101	<50.0	<50.0	<50.0	<50.0	<50.0	551
PH08B	3	10/30/2019	<0.000998	<0.000998	<50.2	<50.2	<50.2	<50.2	<50.2	498
PH08C	4	10/30/2019	<0.000996	<0.000996	<49.8	<49.8	<49.8	<49.8	<49.8	78.3
PH08D	5	10/30/2019	<0.00101	<0.00101	<50.0	<50.0	<50.0	<50.0	<50.0	36.2
PH08E	6	10/30/2019	<0.00101	<0.00101	<50.3	<50.3	<50.3	<50.3	<50.3	352
PH09	1	10/30/2019	<0.000990	<0.000990	<50.1	<50.1	<50.1	<50.1	<50.1	1,070
PH09A	2	10/30/2019	<0.000998	<0.000998	<50.2	<50.2	<50.2	<50.2	<50.2	569
PH09B	3	10/30/2019	<0.000996	<0.000996	<50.2	<50.2	<50.2	<50.2	<50.2	716
PH09C	5	01/13/2022	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	120
PH10	1	10/30/2019	<0.000998	<0.000998	<50.2	<50.2	<50.2	<50.2	<50.2	2,220
PH10A	2	10/30/2019	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	1,170
PH10B	3	10/30/2019	<0.000998	<0.000998	<50.2	<50.2	<50.2	<50.2	<50.2	705
PH10C	4	10/30/2019	<0.00100	<0.00100	<50.3	<50.3	<50.3	<50.3	<50.3	<497
PH10D	5	01/13/2022	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	466





**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Remuda Basin State #2 / Incident ID NAB1802927873  
 XTO Energy, Inc.  
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
PH11	1	10/30/2019	<0.00100	<0.00100	<50.0	<50.0	<50.0	<50.0	<50.0	7,490
PH11A	2	10/30/2019	<0.000988	<0.000988	<50.1	<50.1	<50.1	<50.1	<50.1	1,360
PH11B	3	10/30/2019	<0.000988	<0.000988	<50.0	<50.0	<50.0	<50.0	<50.0	<498
PH12	1	11/04/2019	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,800
PH12A	2	11/04/2019	<0.0000199	<0.0000199	<49.8	<49.8	<49.8	<49.8	<49.8	2,370
PH12B	3	11/04/2019	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	2,250
PH12C	4	11/04/2019	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	1,170
PH12D	5	11/04/2019	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	1,650
PH12E	6	01/12/2022	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	539
PH13	1	11/04/2019	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	1,350
PH13A	2	11/04/2019	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	1,610
PH13B	3	11/04/2019	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	1,570
PH13C	4	01/12/2022	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	422
PH14	1	11/04/2019	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	5,880
PH14A	2	11/04/2019	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	4,470
PH14B	3	11/04/2019	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	3,990
PH14C	4	11/04/2019	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	1,930
PH14E	6	01/28/2022	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	802
PH14F	7	01/28/2022	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	412
PH15	7	12/04/2019	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	1,060
PH15A	8	12/04/2019	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	406
PH16	4	01/14/2022	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	11,900
PH16A	10	01/14/2022	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	2,400
PH16B	14	01/14/2022	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	979
PH16C	16	01/14/2022	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	694
PH16D	20	01/14/2022	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	477
PH17	1	01/12/2022	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	944
PH17B	3	01/12/2022	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	806
PH17D	5	02/15/2022	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	603
PH17E	6	02/15/2022	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	467



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Remuda Basin State #2 / Incident ID NAB1802927873  
 XTO Energy, Inc.  
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
PH18	1	01/12/2022	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	1,060
PH18B	3	01/12/2022	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	596
PH18E	6	02/15/2022	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,440
PH18F	7	02/15/2022	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	134
BH01	0.5	03/17/2020	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	6,180
BH01A	1	03/17/2020	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	3,580
BH02	0.5	03/17/2020	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	4,740
BH02A	1	03/17/2020	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	4,300
BH03	0.5	03/17/2020	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	6,640
BH03A	1	03/17/2020	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	6,630
Northern TPH Excavation - Floor and Sidewall Soil Samples										
FS01	6	01/20/2022	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	97.7
FS02	6	01/25/2022	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	179
SW01	0 - 6	01/20/2022	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	317
SW02	0 - 6	01/25/2022	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	268
SW03	0 - 6	01/25/2022	<0.00200	<0.00400	<50.0	60.1	<50.0	60.1	60.1	424



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Remuda Basin State #2 / Incident ID NAB1802927873  
 XTO Energy, Inc.  
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
Well Pad Excavation - Sidewall Soil Samples										
SW04	0 - 4	01/24/2022	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	51.0
SW05	0 - 4	02/07/2022	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	110
SW06	0 - 4	02/14/2022	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	159
SW07	0 - 4	02/07/2022	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	528
SW08	0 - 4	02/11/2022	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	362
SW09	0 - 4	02/11/2022	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	432
SW10	0 - 4	02/16/2022	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	329
SW11	0 - 4	02/14/2022	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	525
SW12	0 - 4	02/14/2022	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	483
SW13	0 - 4	02/14/2022	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	274
SW14	0 - 4	02/14/2022	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	34.2
SW15	0 - 4	02/14/2022	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	210
SW16	0 - 4	02/16/2022	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	66.9
SW17	0 - 4	02/16/2022	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	46.6
SW18	0 - 4	02/16/2022	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	41.2
SW19	0 - 4	02/16/2022	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	80.6
SW20	0 - 4	02/16/2022	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	56.3
SW21	0 - 4	02/16/2022	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	555
SW22	0 - 4	02/16/2022	<0.00198	<0.00397	<50.0	72.1	<50.0	72.1	72.1	455
SW23	0 - 4	02/16/2022	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	304
SW24	0 - 4	02/16/2022	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	224
SW25	0 - 4	02/16/2022	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	292
SW26	0 - 4	02/16/2022	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	91.3
SW27	0 - 4	02/16/2022	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	206

## Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon


**Grey** text represents samples that have been excavated




## APPENDIX A


### Lithologic Soil Sampling Logs


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								Sample Name: PH01		Date: 10.24.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL/CS		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 1'-4' taken on 10.24.2019, 5'-6' taken on 02.14.2022													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	854	0.0	N	PH01	1'	1	CL	Sandy Clay, Red brown, Low Plasticity, low cohesion, medium to fine grained, poorly graded, no stain, no odor.					
D	750	0.0	N	PH01A	2'	2	SAA					SAA	
D	1075	0.0	N	PH01B	3'	3	SAA					SAA	
D	750	0.0	N	PH01C	4'	4	SAA					Caliche Gravel	
D	1260	0.2	N	PH01D	5'	5	SAA					SAA	
D	369.6	0.2	N	PH01E	6'	6	SAA					SAA	


								Sample Name: PH02		Date: 10.24.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	<179	0.0	N	PH02	1'	1	CL	Sandy Clay, Red brown, Low Plasticity, low cohesion, medium to fine grained, poorly graded, no stain, no odor.					
D	<179	0.0	N	PH02A	2'	2	SAA	SAA					
D	443	0.0	N	PH02B	3'	3	SAA	SAA					
D	1372	0.0	N	PH02C	4'	4	SAA	Some Caliche Gravel					
D	616	0.0	N	PH02D	5'	5	CCHE	Sand w/ Caliche, tan brown, no odor no stain, medium-fine grained, poorly graded, no silt.					
D	342	0.0	N	PH02E	6'	6	SAA	SAA					





								Sample Name: PH03		Date: 10.24.2019					
								Site Name: Remuda Basin State #2							
								Incident Number:							
								Job Number:							
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL		Method: Trackhoe					
Coordinates:								Hole Diameter:		Total Depth: 6'					
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.															
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions							
D	297	0.4	N	PH03	1'	1	CL	Sandy Clay, Red brown, Low Plasticity, low cohesion, medium to fine grained, poorly graded, no stain, no odor.							
D	252	2.1	N	PH03A	2'	2	SAA	SAA, has odor							
D	252	3.0	N	PH03B	3'	3	CCHE	Caliche, with sand, tan, odor, no stain							
D	218	2.0	N	PH03C	4'	4	SAA	SAA							
M	297	0.0	N	PH03D	5'	5	CL	Clayey sand, with some caliche, tan, brown+gypsum, (1-1.5 inches), no odor, no staining, low plasticity, low cohesiveness, poorly graded, medium-fine grained (both 5' and 6' samples)							
M	<179	0.0	N	PH03E	6'	6	SAA								

								Sample Name: PH04		Date: 10.29.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 4'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	<179	0.0	N	PH04	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly graded, low plasticity, low cohesiveness					
D	<179	0.0	N	PH04A	2'	2	SAA	SAA					
D	<179	0.0	N	PH04B	3'	3	SAA	SAA					
D	<179	0.0	N	PH04C	4'	4	CCHE	Caliche, tan, off white, no odor, no stain					


								Sample Name: PH05		Date: 10.29.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 5'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	<179	0.3	N	PH05	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly graded, low plasticity, low cohesiveness					
D	<179	0.4	N	PH05A	2'	2	SAA	SAA					
D	<179	0.8	N	PH05B	3'	3	SAA	SAA					
D	<179	0.1	N	PH05C	4'	4	CCHE	Caliche, tan, off white, no odor, no stain					
D	<179	1.0	N	PH05D	5'	5	SAA	SAA					


								Sample Name: PH06		Date: 10.29.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL/CS		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 11'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 10'-11' Taken at a later date (01.13.22, and 01.24.22)													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	<179	1.5	N	PH06	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly graded, low plasticity, low cohesiveness					
D	493	1.1	N	PH06A	2'	2	SAA	SAA					
D	554	1.1	N	PH06B	3'	3	SAA	SAA					
D	1484	1.4	N	PH06C	4'	4	SAA	Caliche, tan, off white, no odor, no stain					
D	1848	1.0	N	PH06D	5'	5	SAA	SAA					
M	1602	0.7	N	PH06E	6'	6	SAA	SAA					
M	1170	0.9	N	PH06F	7'	7	SAA	SAA					
M	907	1.1	N	PH06G	8'	8	SAA	SAA					
M	1170	1.2	N	PH06H	9'	9	CCHE	Caliche Tan, Off white					
D	296	0.8	N	PH06I	10'	10	SAA	SAA					
D	212	0	N	PH06J	11'	11	SAA	SAA					


								Sample Name: PH07		Date: 10.29.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	683	0.7	N	PH07	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly Sorted, low plasticity, low cohesiveness					
D	554	0.0	N	PH07A	2'	2	SAA	SAA					
D	829	1.2	N	PH07B	3'	3	SAA	SAA					
D	297	0.6	N	PH07C	4'	4	SAA	SAA					
D	342	0.7	N	PH06D	5'	5	SAA	SAA					
D	<179	0.1	N	PH07E	6'	6	SAA	SAA					


								Sample Name: PH08		Date: 10.30.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	750	0.0	N	PH08	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly graded, low plasticity, low cohesiveness					
D	297	0.0	N	PH08A	2'	2	SAA	SAA					
D	297	0.0	N	PH08B	3'	3	SAA	SAA					
D	<179	0.0	N	PH08C	4'	4	SAA	SAA					
D	<179	0.0	N	PH08D	5'	5	CCHE	Caliche, tan, off white, no odor, no stain					
D	<179	0.0	N	PH08E	6'	6	SAA	SAA					





								Sample Name: PH09		Date: 10.30.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL/CS		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 5'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 5' Sample collected 01.13.2022													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	297	0.0	N	PH09	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly graded, low plasticity, low cohesiveness					
D	342	0.0	N	PH09A	2'	2	SAA	SAA					
D	252	0.0	N	PH09B	3'	3	CCHE	caliche, tan off white, no stain, no odor					
						4							
D	176	0.0	N	PH09C	5'	5	CCHE	Reddish brown sandstone with caliche gravel					


								Sample Name: PH10		Date: 10.30.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL/CS		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 5'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 5' Sample collected 01.13.2022													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	907	0.2	N	PH10	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly graded, low plasticity, low cohesiveness					
D	1075	0.4	N	PH10A	2'	2	SAA	SAA, some caliche gravel					
D	297	0.6	N	PH10B	3'	3	CCHE	caliche, tan off white, no stain, no odor					
D	554	0.8	N	PH10C	4'	4	SAA						
D	341	0.0	N	PH10D	5'	5	CCHE	Greyish brown sandstone with caliche gravel, poorly sorted					


								Sample Name: PH11		Date: 10.30.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 3'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	991	0.1	N	PH11	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly graded, low plasticity, low cohesiveness					
D	823	0.2	N	PH11A	2'	2	SAA	SAA, some caliche gravel					
D	252	0.2	N	PH11B	3'	3	CCHE	caliche, tan off white, no stain, no odor					

								Sample Name: PH12		Date: 11.04.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL/CS		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 6' Sample collected 01.12.22													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	1484	2.0	N	PH12	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly graded, low plasticity, low cohesiveness					
D	2134	1.7	N	PH12A	2'	2	SAA	SAA					
M	2632	1.7	N	PH12B	3'	3	SAA	SAA					
M	907	0.9	N	PH12C	4'	4	sp-sm	sand with Caliche gravel, brown/tan/offwhite, medium to fine grained, poorly graded, no odor, no stain.					
D	750	0.6	N	PH12D	5'	5	SAA	SAA					
D	369	0.1	N	PH12E	6'	6	SAA	Reddish brown, Fine grained clay					


								Sample Name: PH13		Date: 11.04.2019					
								Site Name: Remuda Basin State #2							
								Incident Number:							
								Job Number:							
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL/CS		Method: Trackhoe					
Coordinates:								Hole Diameter:		Total Depth: 4'					
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 6' Sample collected 01.12.22															
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions							
D	1271	1.7	N	PH13	1'	1	CL	Clayey Sand, Brown, no odor, no stain, m-f, poorly graded, low plasticity, low cohesiveness							
D	991	1.3	N	PH13A	2'	2	SAA	SAA, some caliche gravel							
D	1372	0.8	N	PH13B	3'	3	CCHE	Caliche, tan, off white, no odor, no stain							
D	476	0.1	N	PH13C	4'	4	SAA	SAA							

								Sample Name: PH14		Date: 11.04.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL/CS		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 7'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 5' and 6' Sample collected 01.12.22													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	3489	1.6	N	PH14	1'	1	sp-sc	Sand, brown, m-f, poorly graded, no stain, no odor, silt					
M	2822	1.4	N	PH14A	2'	2	SAA	SAA					
M	>3489	1.8	N	PH14B	3'	3	SAA	SAA					
M	1988	2.0	N	PH14C	4'	4	SAA	SAA					
D	1142	0.2	N	PH14D	5'	5	SAA	Poorly sorted m-c grained sandstone with silt and caliche gravel					
D	560	0.1	N	PH14E	6'	6	SAA	SAA					
D	392	0.2	N	PH14F	7'	7	SAA	SAA					

								Sample Name: PH16		Date: 01/14/22-01/18/22			
								Site Name: Remuda Basin State 002					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 20'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
						1							
						2							
						3							
N	>3466	2.0	N	PH16	4'	4	sp-sm	Reddish Brown Well sorted Fine grained sandstone					
						5							
N	>3466	0.5	N		6'	6	SAA	SAA					
						7							
N	>3466	0.6	N		8'	8	SAA	SAA, with Gypsum					
						9							
N	>3466	0.2	N	PH16A	10'	10	sp-sm	reddish brown poorly sorted fine grained sandstone					
						11							
N	2850	0.3	N		12'	12	SAA	SAA					
						13							
N	2850	0.0	N	PH16B	14'	14	SAA	SAA					
N	1428	0.1	N		15'	15	CCHE	Caliche					
N	1058	0.0	N	PH16C	16'	16	SAA	SAA					
N	896	0.4	N		17'	17	SAA	SAA					
N	1142	0.1	N		18'	18	SAA	SAA					
N	1142	0.1	N		19'	19	SAA	SAA					
N	1058	0.2	N	PH16D	20'	20	SAA	SAA					

								Sample Name: PH17		Date: 11.04.2019			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: SL/CS		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 6'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. Collected from Jan14th-Feb15th													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	1142	0.1	N	PH17	1'	1	cche	Caliche					
M	752	0.1	N	PH17A	2'	2	SAA	SAA					
M	560	0.1	N	PH17B	3'	3	SAA	SAA					
M	392	0.1	N	PH17C	4'	4	SAA	SAA					
D	526	0.0	N	PH17D	5'	5	SAA	SAA					
D	369	0.0	N	PH17E	6'	6	SAA	SAA					



								Sample Name: PH18		Date: 01.12.2022			
								Site Name: Remuda Basin State #2					
								Incident Number:					
								Job Number:					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS		Method: Trackhoe			
Coordinates:								Hole Diameter:		Total Depth: 7'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. Collected from Jan12th-Feb15th													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
D	974	0.1	N	PH18	1'	1	spsm	Red Brown Poorly sorted fine grained sandstone					
M	974	0.1	N	PH18A	2'	2	SAA	SAA, well sorted					
M	442	0.1	N	PH18B	3'	3	cche	Caliche					
M	560	0.2	N	PH18C	4'	4	SAA	SAA					
D			N	PH18D	5'	5	SAA	SAA					
D	1422	0.0	N	PH18E	6'	6	SAA	SAA					
D	<179	0	N	PH18F	7'	7	SAA	SAA					



## APPENDIX B

### Photographic Log

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**Photographic Log**

XTO Energy, Inc.

Remuda Basin State #2

Incident Number NAB1802927873



Photograph 1                      Date: Jan 26, 2022  
Description: View of excavation activities.



Photograph 2                      Date: Feb 4, 2022  
Description: View of excavation activities.



Photograph 3                      Date: Feb 11, 2022  
Description: View of liner installation activities.



Photograph 4                      Date: Feb 28, 2022  
Description: View of backfilled excavation.



## APPENDIX C

### Laboratory Analytical Reports & Chain of Custody Documentation

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## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1830-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.002

Client Project/Site: Remuda Basin State 002

Revision: 1

#### For:

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
1/20/2022 12:25:40 PM

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

#### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Laboratory Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

## Qualifiers

## GC VOA

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

## GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, 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: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

### Job ID: 890-1830-1

### Laboratory: Eurofins Carlsbad

#### Narrative

#### Job Narrative 890-1830-1

#### REVISION

The report being provided is a revision of the original report sent on 1/17/2022. The report (revision 1) is being revised due to Per client email, changed Sample IDs.

Report revision history

#### Receipt

The samples were received on 1/14/2022 8:07 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 1.0°C

#### GC VOA

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

#### GC Semi VOA

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-16978 and analytical batch 880-16964 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

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-17007 and 880-17007 and analytical batch 880-17057 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.



## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

Client Sample ID: PH17

Lab Sample ID: 890-1830-1

Date Collected: 01/12/22 14:25

Matrix: Solid

Date Received: 01/14/22 08:07

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	-	01/17/22 07:30	01/17/22 11:22	1
Toluene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 11:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 11:22	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg	-	01/17/22 07:30	01/17/22 11:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 11:22	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg	-	01/17/22 07:30	01/17/22 11:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	01/17/22 07:30	01/17/22 11:22	1
1,4-Difluorobenzene (Surr)	85		70 - 130	01/17/22 07:30	01/17/22 11:22	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	-		01/17/22 14:46	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	-		01/17/22 14:06	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 F1	50.0	mg/Kg	-	01/17/22 09:12	01/17/22 12:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg	-	01/17/22 09:12	01/17/22 12:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg	-	01/17/22 09:12	01/17/22 12:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	66	S1-	70 - 130	01/17/22 09:12	01/17/22 12:49	1
o-Terphenyl	70		70 - 130	01/17/22 09:12	01/17/22 12:49	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	944	F1	4.96	mg/Kg	-		01/17/22 14:20	1

Client Sample ID: PH17A

Lab Sample ID: 890-1830-2

Date Collected: 01/12/22 14:30

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 11:42	1
Toluene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 11:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 11:42	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg	-	01/17/22 07:30	01/17/22 11:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 11:42	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg	-	01/17/22 07:30	01/17/22 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	01/17/22 07:30	01/17/22 11:42	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

Client Sample ID: PH17A

Lab Sample ID: 890-1830-2

Date Collected: 01/12/22 14:30

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	111		70 - 130	01/17/22 07:30	01/17/22 11:42	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			01/17/22 14:46	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			01/17/22 14:06	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		01/17/22 09:12	01/17/22 13:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 13:53	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 13:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	68	S1-	70 - 130			01/17/22 09:12	01/17/22 13:53	1
o-Terphenyl	71		70 - 130			01/17/22 09:12	01/17/22 13:53	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	900		5.00	mg/Kg			01/17/22 14:41	1

Client Sample ID: PH17B

Lab Sample ID: 890-1830-3

Date Collected: 01/12/22 14:35

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 12:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	01/17/22 07:30	01/17/22 12:02	1
1,4-Difluorobenzene (Surr)	83		70 - 130	01/17/22 07:30	01/17/22 12:02	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			01/17/22 14:46	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			01/17/22 14:06	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

## Client Sample ID: PH17B

Date Collected: 01/12/22 14:35

Date Received: 01/14/22 08:07

Sample Depth: 3

## Lab Sample ID: 890-1830-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 14:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 14:14	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 14:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	66	S1-	70 - 130			01/17/22 09:12	01/17/22 14:14	1
o-Terphenyl	68	S1-	70 - 130			01/17/22 09:12	01/17/22 14:14	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	806		4.95	mg/Kg			01/17/22 14:48	1

## Client Sample ID: PH17C

Date Collected: 01/12/22 14:40

Date Received: 01/14/22 08:07

Sample Depth: 4

## Lab Sample ID: 890-1830-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130			01/17/22 07:30	01/17/22 12:23	1
1,4-Difluorobenzene (Surr)	108		70 - 130			01/17/22 07:30	01/17/22 12:23	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			01/17/22 14:46	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			01/17/22 14:06	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		01/17/22 09:12	01/17/22 14:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 14:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 14:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	67	S1-	70 - 130			01/17/22 09:12	01/17/22 14:35	1
o-Terphenyl	68	S1-	70 - 130			01/17/22 09:12	01/17/22 14:35	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

## Client Sample ID: PH17C

Date Collected: 01/12/22 14:40

Date Received: 01/14/22 08:07

Sample Depth: 4

## Lab Sample ID: 890-1830-4

Matrix: Solid

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	693		5.04	mg/Kg			01/17/22 14:55	1

## Client Sample ID: PH18

Date Collected: 01/12/22 15:00

Date Received: 01/14/22 08:07

Sample Depth: 1

## Lab Sample ID: 890-1830-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130			01/17/22 07:30	01/17/22 12:43	1
1,4-Difluorobenzene (Surr)	103		70 - 130			01/17/22 07:30	01/17/22 12:43	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			01/17/22 14:46	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			01/17/22 14:06	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		01/17/22 09:12	01/17/22 14:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 14:56	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 14:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	66	S1-	70 - 130			01/17/22 09:12	01/17/22 14:56	1
o-Terphenyl	67	S1-	70 - 130			01/17/22 09:12	01/17/22 14:56	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1060		4.99	mg/Kg			01/17/22 16:20	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

Client Sample ID: PH18A

Lab Sample ID: 890-1830-6

Date Collected: 01/12/22 15:05

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 13:04	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 13:04	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 13:04	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		01/17/22 07:30	01/17/22 13:04	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/17/22 07:30	01/17/22 13:04	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		01/17/22 07:30	01/17/22 13:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	01/17/22 07:30	01/17/22 13:04	1
1,4-Difluorobenzene (Surr)	107		70 - 130	01/17/22 07:30	01/17/22 13:04	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			01/17/22 14:46	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			01/17/22 14:06	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		01/17/22 09:12	01/17/22 15:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 15:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 15:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	70		70 - 130	01/17/22 09:12	01/17/22 15:18	1
o-Terphenyl	71		70 - 130	01/17/22 09:12	01/17/22 15:18	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1210		4.98	mg/Kg			01/17/22 16:43	1

Client Sample ID: PH18B

Lab Sample ID: 890-1830-7

Date Collected: 01/12/22 15:10

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 13:24	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 13:24	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 13:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/17/22 07:30	01/17/22 13:24	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 13:24	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/17/22 07:30	01/17/22 13:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	01/17/22 07:30	01/17/22 13:24	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

Client Sample ID: PH18B

Lab Sample ID: 890-1830-7

Date Collected: 01/12/22 15:10

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 3

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	100		70 - 130	01/17/22 07:30	01/17/22 13:24	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			01/17/22 14:46	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			01/17/22 14:06	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		01/17/22 09:12	01/17/22 15:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 15:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 15:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	51	S1-	70 - 130			01/17/22 09:12	01/17/22 15:39	1
o-Terphenyl	52	S1-	70 - 130			01/17/22 09:12	01/17/22 15:39	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	596		5.00	mg/Kg			01/17/22 16:50	1

Client Sample ID: PH18C

Lab Sample ID: 890-1830-8

Date Collected: 01/12/22 15:15

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/17/22 07:30	01/17/22 13:45	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/17/22 07:30	01/17/22 13:45	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/17/22 07:30	01/17/22 13:45	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/17/22 07:30	01/17/22 13:45	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/17/22 07:30	01/17/22 13:45	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/17/22 07:30	01/17/22 13:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	01/17/22 07:30	01/17/22 13:45	1
1,4-Difluorobenzene (Surr)	105		70 - 130	01/17/22 07:30	01/17/22 13:45	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			01/17/22 14:46	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			01/17/22 14:06	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

## Client Sample ID: PH18C

Date Collected: 01/12/22 15:15

Date Received: 01/14/22 08:07

Sample Depth: 4

## Lab Sample ID: 890-1830-8

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		01/17/22 09:12	01/17/22 16:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 16:00	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 16:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	68	S1-	70 - 130			01/17/22 09:12	01/17/22 16:00	1
o-Terphenyl	70		70 - 130			01/17/22 09:12	01/17/22 16:00	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	719		4.95	mg/Kg			01/17/22 16:58	1

## Client Sample ID: PH18D

Date Collected: 01/12/22 10:25

Date Received: 01/14/22 08:07

Sample Depth: 5

## Lab Sample ID: 890-1830-9

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130			01/17/22 07:30	01/17/22 14:05	1
1,4-Difluorobenzene (Surr)	90		70 - 130			01/17/22 07:30	01/17/22 14:05	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			01/17/22 14:46	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			01/17/22 14:06	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		01/17/22 09:12	01/17/22 16:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 16:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/17/22 09:12	01/17/22 16:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	58	S1-	70 - 130			01/17/22 09:12	01/17/22 16:21	1
o-Terphenyl	60	S1-	70 - 130			01/17/22 09:12	01/17/22 16:21	1

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Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

Client Sample ID: PH18D  
Date Collected: 01/12/22 10:25  
Date Received: 01/14/22 08:07  
Sample Depth: 5

Lab Sample ID: 890-1830-9  
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	621		4.98	mg/Kg			01/17/22 17:05	1	



# Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1830-1	PH17	105	85
890-1830-1 MS	PH17	107	94
890-1830-1 MSD	PH17	105	100
890-1830-2	PH17A	93	111
890-1830-3	PH17B	120	83
890-1830-4	PH17C	121	108
890-1830-5	PH18	120	103
890-1830-6	PH18A	116	107
890-1830-7	PH18B	130	100
890-1830-8	PH18C	122	105
890-1830-9	PH18D	121	90
LCS 880-16867/1-A	Lab Control Sample	117	102
LCSD 880-16867/2-A	Lab Control Sample Dup	109	93
MB 880-16867/5-A	Method Blank	121	104
<b>Surrogate Legend</b>			
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)
890-1830-1	PH17	66 S1-	70
890-1830-1 MS	PH17	67 S1-	60 S1-
890-1830-1 MSD	PH17	77	68 S1-
890-1830-2	PH17A	68 S1-	71
890-1830-3	PH17B	66 S1-	68 S1-
890-1830-4	PH17C	67 S1-	68 S1-
890-1830-5	PH18	66 S1-	67 S1-
890-1830-6	PH18A	70	71
890-1830-7	PH18B	51 S1-	52 S1-
890-1830-8	PH18C	68 S1-	70
890-1830-9	PH18D	58 S1-	60 S1-
LCS 880-16978/2-A	Lab Control Sample	98	92
LCSD 880-16978/3-A	Lab Control Sample Dup	91	89
MB 880-16978/1-A	Method Blank	74	77
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

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

Lab Sample ID: MB 880-16867/5-A

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16867

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 10:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	01/17/22 07:30	01/17/22 10:53	1
1,4-Difluorobenzene (Surr)	104		70 - 130	01/17/22 07:30	01/17/22 10:53	1

Lab Sample ID: LCS 880-16867/1-A

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16867

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09568		mg/Kg		96	70 - 130
Toluene	0.100	0.09826		mg/Kg		98	70 - 130
Ethylbenzene	0.100	0.1055		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2080		mg/Kg		104	70 - 130
o-Xylene	0.100	0.1008		mg/Kg		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: LCSD 880-16867/2-A

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16867

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08583		mg/Kg		86	70 - 130	11	35
Toluene	0.100	0.09537		mg/Kg		95	70 - 130	3	35
Ethylbenzene	0.100	0.09776		mg/Kg		98	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1819		mg/Kg		91	70 - 130	13	35
o-Xylene	0.100	0.08903		mg/Kg		89	70 - 130	12	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

Lab Sample ID: 890-1830-1 MSD

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: PH17

Prep Type: Total/NA

Prep Batch: 16867

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.1012		mg/Kg					
Toluene	<0.00200	U	0.0994	0.09193		mg/Kg					

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

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

Lab Sample ID: 890-1830-1 MSD

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: PH17

Prep Type: Total/NA

Prep Batch: 16867

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00200	U	0.0994	0.09900		mg/Kg					
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1853		mg/Kg					
o-Xylene	<0.00200	U	0.0994	0.08833		mg/Kg					

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

Lab Sample ID: 890-1830-1 MS

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: PH17

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

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

Lab Sample ID: MB 880-16978/1-A

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16978

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		01/17/22 09:12	01/17/22 11:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 11:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 11:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130	01/17/22 09:12	01/17/22 11:45	1
o-Terphenyl	77		70 - 130	01/17/22 09:12	01/17/22 11:45	1

Lab Sample ID: LCS 880-16978/2-A

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1033		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	1000	878.7		mg/Kg		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	92		70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

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

Lab Sample ID: LCSD 880-16978/3-A

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16978

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1022		mg/Kg		102	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	894.7		mg/Kg		89	70 - 130	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	91		70 - 130						
o-Terphenyl	89		70 - 130						

Lab Sample ID: 890-1830-1 MS

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: PH17

Prep Type: Total/NA

Prep Batch: 16978

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	999	1350	F1	mg/Kg		135	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1144		mg/Kg		112	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	67	S1-	70 - 130								
o-Terphenyl	60	S1-	70 - 130								

Lab Sample ID: 890-1830-1 MSD

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: PH17

Prep Type: Total/NA

Prep Batch: 16978

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 F1	998	1508	F1	mg/Kg		151	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1308		mg/Kg		129	70 - 130	13	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	77		70 - 130								
o-Terphenyl	68	S1-	70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-17007/1-A

Matrix: Solid

Analysis Batch: 17057

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			01/17/22 13:59	1

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-17007/2-A

Matrix: Solid

Analysis Batch: 17057

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	266.8		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-17007/3-A

Matrix: Solid

Analysis Batch: 17057

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	250.1		mg/Kg		100	90 - 110	6	20

Lab Sample ID: 890-1830-1 MS

Matrix: Solid

Analysis Batch: 17057

Client Sample ID: PH17

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	944	F1	248	1155	F1	mg/Kg		85	90 - 110

Lab Sample ID: 890-1830-1 MSD

Matrix: Solid

Analysis Batch: 17057

Client Sample ID: PH17

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	944	F1	248	1156	F1	mg/Kg		85	90 - 110	0	20

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

## GC VOA

## Prep Batch: 16867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-1	PH17	Total/NA	Solid	5035	
890-1830-2	PH17A	Total/NA	Solid	5035	
890-1830-3	PH17B	Total/NA	Solid	5035	
890-1830-4	PH17C	Total/NA	Solid	5035	
890-1830-5	PH18	Total/NA	Solid	5035	
890-1830-6	PH18A	Total/NA	Solid	5035	
890-1830-7	PH18B	Total/NA	Solid	5035	
890-1830-8	PH18C	Total/NA	Solid	5035	
890-1830-9	PH18D	Total/NA	Solid	5035	
MB 880-16867/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16867/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16867/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1830-1 MSD	PH17	Total/NA	Solid	5035	

## Analysis Batch: 16967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-1	PH17	Total/NA	Solid	8021B	16867
890-1830-2	PH17A	Total/NA	Solid	8021B	16867
890-1830-3	PH17B	Total/NA	Solid	8021B	16867
890-1830-4	PH17C	Total/NA	Solid	8021B	16867
890-1830-5	PH18	Total/NA	Solid	8021B	16867
890-1830-6	PH18A	Total/NA	Solid	8021B	16867
890-1830-7	PH18B	Total/NA	Solid	8021B	16867
890-1830-8	PH18C	Total/NA	Solid	8021B	16867
890-1830-9	PH18D	Total/NA	Solid	8021B	16867
MB 880-16867/5-A	Method Blank	Total/NA	Solid	8021B	16867
LCS 880-16867/1-A	Lab Control Sample	Total/NA	Solid	8021B	16867
LCSD 880-16867/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16867
890-1830-1 MS	PH17	Total/NA	Solid	8021B	
890-1830-1 MSD	PH17	Total/NA	Solid	8021B	16867

## Analysis Batch: 17056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-1	PH17	Total/NA	Solid	Total BTEX	
890-1830-2	PH17A	Total/NA	Solid	Total BTEX	
890-1830-3	PH17B	Total/NA	Solid	Total BTEX	
890-1830-4	PH17C	Total/NA	Solid	Total BTEX	
890-1830-5	PH18	Total/NA	Solid	Total BTEX	
890-1830-6	PH18A	Total/NA	Solid	Total BTEX	
890-1830-7	PH18B	Total/NA	Solid	Total BTEX	
890-1830-8	PH18C	Total/NA	Solid	Total BTEX	
890-1830-9	PH18D	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 16964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-1	PH17	Total/NA	Solid	8015B NM	16978
890-1830-2	PH17A	Total/NA	Solid	8015B NM	16978
890-1830-3	PH17B	Total/NA	Solid	8015B NM	16978
890-1830-4	PH17C	Total/NA	Solid	8015B NM	16978

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

## GC Semi VOA (Continued)

## Analysis Batch: 16964 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-5	PH18	Total/NA	Solid	8015B NM	16978
890-1830-6	PH18A	Total/NA	Solid	8015B NM	16978
890-1830-7	PH18B	Total/NA	Solid	8015B NM	16978
890-1830-8	PH18C	Total/NA	Solid	8015B NM	16978
890-1830-9	PH18D	Total/NA	Solid	8015B NM	16978
MB 880-16978/1-A	Method Blank	Total/NA	Solid	8015B NM	16978
LCS 880-16978/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16978
LCSD 880-16978/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16978
890-1830-1 MS	PH17	Total/NA	Solid	8015B NM	16978
890-1830-1 MSD	PH17	Total/NA	Solid	8015B NM	16978

## Prep Batch: 16978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-1	PH17	Total/NA	Solid	8015NM Prep	
890-1830-2	PH17A	Total/NA	Solid	8015NM Prep	
890-1830-3	PH17B	Total/NA	Solid	8015NM Prep	
890-1830-4	PH17C	Total/NA	Solid	8015NM Prep	
890-1830-5	PH18	Total/NA	Solid	8015NM Prep	
890-1830-6	PH18A	Total/NA	Solid	8015NM Prep	
890-1830-7	PH18B	Total/NA	Solid	8015NM Prep	
890-1830-8	PH18C	Total/NA	Solid	8015NM Prep	
890-1830-9	PH18D	Total/NA	Solid	8015NM Prep	
MB 880-16978/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16978/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16978/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1830-1 MS	PH17	Total/NA	Solid	8015NM Prep	
890-1830-1 MSD	PH17	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 17055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-1	PH17	Total/NA	Solid	8015 NM	
890-1830-2	PH17A	Total/NA	Solid	8015 NM	
890-1830-3	PH17B	Total/NA	Solid	8015 NM	
890-1830-4	PH17C	Total/NA	Solid	8015 NM	
890-1830-5	PH18	Total/NA	Solid	8015 NM	
890-1830-6	PH18A	Total/NA	Solid	8015 NM	
890-1830-7	PH18B	Total/NA	Solid	8015 NM	
890-1830-8	PH18C	Total/NA	Solid	8015 NM	
890-1830-9	PH18D	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 17007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-1	PH17	Soluble	Solid	DI Leach	
890-1830-2	PH17A	Soluble	Solid	DI Leach	
890-1830-3	PH17B	Soluble	Solid	DI Leach	
890-1830-4	PH17C	Soluble	Solid	DI Leach	
890-1830-5	PH18	Soluble	Solid	DI Leach	
890-1830-6	PH18A	Soluble	Solid	DI Leach	
890-1830-7	PH18B	Soluble	Solid	DI Leach	

Eurofins Carlsbad

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

## HPLC/IC (Continued)

## Leach Batch: 17007 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-8	PH18C	Soluble	Solid	DI Leach	
890-1830-9	PH18D	Soluble	Solid	DI Leach	
MB 880-17007/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-17007/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-17007/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1830-1 MS	PH17	Soluble	Solid	DI Leach	
890-1830-1 MSD	PH17	Soluble	Solid	DI Leach	

## Analysis Batch: 17057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1830-1	PH17	Soluble	Solid	300.0	17007
890-1830-2	PH17A	Soluble	Solid	300.0	17007
890-1830-3	PH17B	Soluble	Solid	300.0	17007
890-1830-4	PH17C	Soluble	Solid	300.0	17007
890-1830-5	PH18	Soluble	Solid	300.0	17007
890-1830-6	PH18A	Soluble	Solid	300.0	17007
890-1830-7	PH18B	Soluble	Solid	300.0	17007
890-1830-8	PH18C	Soluble	Solid	300.0	17007
890-1830-9	PH18D	Soluble	Solid	300.0	17007
MB 880-17007/1-A	Method Blank	Soluble	Solid	300.0	17007
LCS 880-17007/2-A	Lab Control Sample	Soluble	Solid	300.0	17007
LCSD 880-17007/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	17007
890-1830-1 MS	PH17	Soluble	Solid	300.0	17007
890-1830-1 MSD	PH17	Soluble	Solid	300.0	17007

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

Client Sample ID: PH17

Lab Sample ID: 890-1830-1

Date Collected: 01/12/22 14:25

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 11:22	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 12:49	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 14:20	SC	XEN MID

Client Sample ID: PH17A

Lab Sample ID: 890-1830-2

Date Collected: 01/12/22 14:30

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 11:42	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 13:53	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 14:41	SC	XEN MID

Client Sample ID: PH17B

Lab Sample ID: 890-1830-3

Date Collected: 01/12/22 14:35

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 12:02	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 14:14	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 14:48	SC	XEN MID

Client Sample ID: PH17C

Lab Sample ID: 890-1830-4

Date Collected: 01/12/22 14:40

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 12:23	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

Client Sample ID: PH17C

Lab Sample ID: 890-1830-4

Date Collected: 01/12/22 14:40

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 14:35	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 14:55	SC	XEN MID

Client Sample ID: PH18

Lab Sample ID: 890-1830-5

Date Collected: 01/12/22 15:00

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 12:43	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 14:56	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 16:20	SC	XEN MID

Client Sample ID: PH18A

Lab Sample ID: 890-1830-6

Date Collected: 01/12/22 15:05

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 13:04	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 15:18	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 16:43	SC	XEN MID

Client Sample ID: PH18B

Lab Sample ID: 890-1830-7

Date Collected: 01/12/22 15:10

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 13:24	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 15:39	AJ	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

## Client Sample ID: PH18B

Date Collected: 01/12/22 15:10

Date Received: 01/14/22 08:07

## Lab Sample ID: 890-1830-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 16:50	SC	XEN MID

## Client Sample ID: PH18C

Date Collected: 01/12/22 15:15

Date Received: 01/14/22 08:07

## Lab Sample ID: 890-1830-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 13:45	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 16:00	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 16:58	SC	XEN MID

## Client Sample ID: PH18D

Date Collected: 01/12/22 10:25

Date Received: 01/14/22 08:07

## Lab Sample ID: 890-1830-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 14:05	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 16:21	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 17:05	SC	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: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

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.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

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

Eurofins Carlsbad



## Sample Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1830-1  
SDG: 31403236.001.0129.35.002

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1830-1	PH17	Solid	01/12/22 14:25	01/14/22 08:07	1
890-1830-2	PH17A	Solid	01/12/22 14:30	01/14/22 08:07	2
890-1830-3	PH17B	Solid	01/12/22 14:35	01/14/22 08:07	3
890-1830-4	PH17C	Solid	01/12/22 14:40	01/14/22 08:07	4
890-1830-5	PH18	Solid	01/12/22 15:00	01/14/22 08:07	1
890-1830-6	PH18A	Solid	01/12/22 15:05	01/14/22 08:07	2
890-1830-7	PH18B	Solid	01/12/22 15:10	01/14/22 08:07	3
890-1830-8	PH18C	Solid	01/12/22 15:15	01/14/22 08:07	4
890-1830-9	PH18D	Solid	01/12/22 10:25	01/14/22 08:07	5



## Chain of Custody

Work Order No: \_\_\_\_\_

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 (505) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

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Page 1 of 1

Project Manager:	Aimee Cole	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:	Arvada, CO 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:	720.384.7365	Email:	conner.shore@wsp.com; aimee.cole@wsp.com

Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Rowfields <input type="checkbox"/> C <input type="checkbox"/> perfund <input type="checkbox"/>
State of Project:
Reporting Level: <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: <input type="checkbox"/> EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	Remuda Basin State 002	Turn Around	<input type="checkbox"/>
Project Number:	31403236.001.0129.35.02	Routine	<input type="checkbox"/>
P.O. Number:		Rush: 24 Hrs	
Sampler's Name:	Conner Shore	Due Date:	

<b>SAMPLE RECEIPT</b>	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temperature (°C):	1.2/1.0	Thermometer ID	N/A-007	
Received In tact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2	
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Containers:	N/A	
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			



890-1830 Chain of Custody

Sample Identification					Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)	Sample Comments															
PH19					S	1/12/2022	1425	1'	1	X	X	X																
PH19					S	1/12/2022	1430	2'	1	X	X	X																
PH19					S	1/12/2022	1435	3'	1	X	X	X																
PH19					S	1/12/2022	1440	4'	1	X	X	X																
PH20					S	1/12/2022	1500	1'	1	X	X	X																
PH20					S	1/12/2022	1505	2'	1	X	X	X																
PH20					S	1/12/2022	1510	3'	1	X	X	X																
PH20					S	1/12/2022	1515	4'	1	X	X	X																
PH20					S	1/13/2021	1025	5'	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 Ti 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 Ti 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
		1-14-22 0807			

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1830-1

SDG Number: 31403236.001.0129.35.002

**Login Number: 1830****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: 890-1830-1

SDG Number: 31403236.001.0129.35.002

**Login Number: 1830****List Number: 2****Creator: Rodriguez, Leticia****List Source: Eurofins Midland****List Creation: 01/17/22 09:43 AM**

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	



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1831-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02  
Client Project/Site: Remuda Basin State 002  
Revision: 1

**For:**

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

Attn: Aimee Cole

Authorized for release by:  
1/20/2022 12:29:58 PM

Jessica Kramer, Project Manager  
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#### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Laboratory Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## Qualifiers

## GC VOA

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

## GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



## Case Narrative

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

### Job ID: 890-1831-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

#### Job Narrative 890-1831-1

#### REVISION

The report being provided is a revision of the original report sent on 1/17/2022. The report (revision 1) is being revised due to Per client email, requesting Sample IDs to be changed.

Report revision history

#### Receipt

The samples were received on 1/14/2022 8:07 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 1.0°C

#### GC VOA

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

#### GC Semi VOA

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-16978 and analytical batch 880-16964 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

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-17007 and analytical batch 880-17057 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.

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH04

Lab Sample ID: 890-1831-1

Date Collected: 01/12/22 13:40

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/17/22 07:30	01/17/22 11:21	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/17/22 07:30	01/17/22 11:21	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/17/22 07:30	01/17/22 11:21	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/17/22 07:30	01/17/22 11:21	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/17/22 07:30	01/17/22 11:21	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/17/22 07:30	01/17/22 11:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	01/17/22 07:30	01/17/22 11:21	1
1,4-Difluorobenzene (Surr)	80		70 - 130	01/17/22 07:30	01/17/22 11:21	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			01/17/22 14:46	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			01/17/22 14:06	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		01/17/22 09:16	01/17/22 12:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 12:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 12:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	01/17/22 09:16	01/17/22 12:48	1
o-Terphenyl	87		70 - 130	01/17/22 09:16	01/17/22 12:48	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	438		5.00	mg/Kg			01/17/22 17:13	1

Client Sample ID: PH04A

Lab Sample ID: 890-1831-2

Date Collected: 01/12/22 13:45

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 11:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 11:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 11:42	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		01/17/22 07:30	01/17/22 11:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 11:42	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		01/17/22 07:30	01/17/22 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	01/17/22 07:30	01/17/22 11:42	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH04A

Lab Sample ID: 890-1831-2

Date Collected: 01/12/22 13:45

Matrix: Solid

Date Received: 01/14/22 08:07

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	01/17/22 07:30	01/17/22 11:42	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			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	78.4		49.9	mg/Kg			01/17/22 14:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/17/22 09:16	01/17/22 13:51	1
Diesel Range Organics (Over C10-C28)	78.4		49.9	mg/Kg		01/17/22 09:16	01/17/22 13:51	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/17/22 09:16	01/17/22 13:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130			01/17/22 09:16	01/17/22 13:51	1
o-Terphenyl	104		70 - 130			01/17/22 09:16	01/17/22 13:51	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64.7		5.05	mg/Kg			01/17/22 17:20	1

Client Sample ID: PH04B

Lab Sample ID: 890-1831-3

Date Collected: 01/12/22 13:50

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 12:02	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 12:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	01/17/22 07:30	01/17/22 12:02	1
1,4-Difluorobenzene (Surr)	108		70 - 130	01/17/22 07:30	01/17/22 12:02	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			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	60.8		50.0	mg/Kg			01/17/22 14:15	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH04B

Date Collected: 01/12/22 13:50

Date Received: 01/14/22 08:07

Sample Depth: 3

## Lab Sample ID: 890-1831-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 14:12	1
<b>Diesel Range Organics (Over C10-C28)</b>	<b>60.8</b>		50.0	mg/Kg		01/17/22 09:16	01/17/22 14:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 14:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			01/17/22 09:16	01/17/22 14:12	1
o-Terphenyl	78		70 - 130			01/17/22 09:16	01/17/22 14:12	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	82.3		4.99	mg/Kg			01/17/22 17:43	1

## Client Sample ID: PH04C

Date Collected: 01/12/22 14:00

Date Received: 01/14/22 08:07

Sample Depth: 4

## Lab Sample ID: 890-1831-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/17/22 07:30	01/17/22 12:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			01/17/22 07:30	01/17/22 12:23	1
1,4-Difluorobenzene (Surr)	91		70 - 130			01/17/22 07:30	01/17/22 12:23	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			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total TPH</b>	<b>161</b>		50.0	mg/Kg			01/17/22 14:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 14:33	1
<b>Diesel Range Organics (Over C10-C28)</b>	<b>161</b>		50.0	mg/Kg		01/17/22 09:16	01/17/22 14:33	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 14:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130			01/17/22 09:16	01/17/22 14:33	1
o-Terphenyl	97		70 - 130			01/17/22 09:16	01/17/22 14:33	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH04C

Date Collected: 01/12/22 14:00

Date Received: 01/14/22 08:07

Sample Depth: 4

## Lab Sample ID: 890-1831-4

Matrix: Solid

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.1		4.97	mg/Kg			01/17/22 17:51	1

## Client Sample ID: PH04D

Date Collected: 01/12/22 14:05

Date Received: 01/14/22 08:07

Sample Depth: 5

## Lab Sample ID: 890-1831-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/17/22 07:30	01/17/22 12:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130			01/17/22 07:30	01/17/22 12:43	1
1,4-Difluorobenzene (Surr)	71		70 - 130			01/17/22 07:30	01/17/22 12:43	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			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	453		49.9	mg/Kg			01/17/22 14:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/17/22 09:16	01/17/22 14:54	1
Diesel Range Organics (Over C10-C28)	453		49.9	mg/Kg		01/17/22 09:16	01/17/22 14:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/17/22 09:16	01/17/22 14:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130			01/17/22 09:16	01/17/22 14:54	1
o-Terphenyl	80		70 - 130			01/17/22 09:16	01/17/22 14:54	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.2		4.95	mg/Kg			01/17/22 18:14	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH01

Lab Sample ID: 890-1831-6

Date Collected: 01/12/22 09:45

Matrix: Solid

Date Received: 01/14/22 08:07

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	-	01/17/22 07:30	01/17/22 13:03	1
Toluene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 13:03	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 13:03	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg	-	01/17/22 07:30	01/17/22 13:03	1
o-Xylene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 13:03	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg	-	01/17/22 07:30	01/17/22 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	01/17/22 07:30	01/17/22 13:03	1
1,4-Difluorobenzene (Surr)	80		70 - 130	01/17/22 07:30	01/17/22 13:03	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	-		01/17/22 14:46	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	-		01/17/22 14:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg	-	01/17/22 09:16	01/17/22 15:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg	-	01/17/22 09:16	01/17/22 15:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg	-	01/17/22 09:16	01/17/22 15:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130	01/17/22 09:16	01/17/22 15:15	1
o-Terphenyl	80		70 - 130	01/17/22 09:16	01/17/22 15:15	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	637		4.95	mg/Kg	-		01/17/22 18:21	1

Client Sample ID: PH12E

Lab Sample ID: 890-1831-7

Date Collected: 01/12/22 10:30

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 13:24	1
Toluene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 13:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 13:24	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg	-	01/17/22 07:30	01/17/22 13:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg	-	01/17/22 07:30	01/17/22 13:24	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg	-	01/17/22 07:30	01/17/22 13:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	01/17/22 07:30	01/17/22 13:24	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH12E

Lab Sample ID: 890-1831-7

Date Collected: 01/12/22 10:30

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 6

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	104		70 - 130	01/17/22 07:30	01/17/22 13:24	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			01/17/22 14:46	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			01/17/22 14:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 15:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 15:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 15:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130			01/17/22 09:16	01/17/22 15:36	1
o-Terphenyl	86		70 - 130			01/17/22 09:16	01/17/22 15:36	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	539		5.00	mg/Kg			01/17/22 18:29	1

Client Sample ID: PH13C

Lab Sample ID: 890-1831-8

Date Collected: 01/12/22 10:15

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 13:44	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 13:44	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 13:44	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/17/22 07:30	01/17/22 13:44	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/17/22 07:30	01/17/22 13:44	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/17/22 07:30	01/17/22 13:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	01/17/22 07:30	01/17/22 13:44	1
1,4-Difluorobenzene (Surr)	95		70 - 130	01/17/22 07:30	01/17/22 13:44	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			01/17/22 14:46	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			01/17/22 14:15	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH13C

Date Collected: 01/12/22 10:15

Date Received: 01/14/22 08:07

Sample Depth: 4

## Lab Sample ID: 890-1831-8

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		01/17/22 09:16	01/17/22 15:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/17/22 09:16	01/17/22 15:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/17/22 09:16	01/17/22 15:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	76		70 - 130			01/17/22 09:16	01/17/22 15:57	1
o-Terphenyl	74		70 - 130			01/17/22 09:16	01/17/22 15:57	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	422		5.00	mg/Kg			01/17/22 18:36	1

## Client Sample ID: PH06I

Date Collected: 01/13/22 09:20

Date Received: 01/14/22 08:07

Sample Depth: 10

## Lab Sample ID: 890-1831-9

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/17/22 07:30	01/17/22 14:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130			01/17/22 07:30	01/17/22 14:05	1
1,4-Difluorobenzene (Surr)	99		70 - 130			01/17/22 07:30	01/17/22 14:05	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			01/17/22 14:46	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			01/17/22 14:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/17/22 09:16	01/17/22 16:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/17/22 09:16	01/17/22 16:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/17/22 09:16	01/17/22 16:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130			01/17/22 09:16	01/17/22 16:18	1
o-Terphenyl	79		70 - 130			01/17/22 09:16	01/17/22 16:18	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH06I

Date Collected: 01/13/22 09:20

Date Received: 01/14/22 08:07

Sample Depth: 10

## Lab Sample ID: 890-1831-9

Matrix: Solid

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1240		4.99	mg/Kg			01/17/22 18:44	1

## Client Sample ID: PH10D

Date Collected: 01/13/22 09:55

Date Received: 01/14/22 08:07

Sample Depth: 5

## Lab Sample ID: 890-1831-10

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 14:25	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 14:25	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 14:25	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/17/22 07:30	01/17/22 14:25	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 14:25	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/17/22 07:30	01/17/22 14:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			01/17/22 07:30	01/17/22 14:25	1
1,4-Difluorobenzene (Surr)	90		70 - 130			01/17/22 07:30	01/17/22 14:25	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			01/17/22 14:46	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			01/17/22 14:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 16:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 16:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 16:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130			01/17/22 09:16	01/17/22 16:39	1
o-Terphenyl	90		70 - 130			01/17/22 09:16	01/17/22 16:39	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	466		4.98	mg/Kg			01/17/22 18:52	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH09C

Lab Sample ID: 890-1831-11

Date Collected: 01/13/22 15:25

Matrix: Solid

Date Received: 01/14/22 08:07

Sample Depth: 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		01/17/22 07:30	01/17/22 14:26	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 14:26	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 14:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 14:26	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 14:26	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 14:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	01/17/22 07:30	01/17/22 14:26	1
1,4-Difluorobenzene (Surr)	109		70 - 130	01/17/22 07:30	01/17/22 14:26	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			01/17/22 14:46	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			01/17/22 14:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 16:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 16:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 16:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	68	S1-	70 - 130	01/17/22 09:12	01/17/22 16:43	1
o-Terphenyl	69	S1-	70 - 130	01/17/22 09:12	01/17/22 16:43	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120		5.00	mg/Kg			01/17/22 18:59	1

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## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
890-1830-A-1-A MS	Matrix Spike	107	94
890-1830-A-1-B MSD	Matrix Spike Duplicate	105	100
890-1831-1	PH04	119	80
890-1831-1 MS	PH04	102	89
890-1831-1 MSD	PH04	103	104
890-1831-2	PH04A	104	98
890-1831-3	PH04B	124	108
890-1831-4	PH04C	103	91
890-1831-5	PH04D	100	71
890-1831-6	PH01	126	80
890-1831-7	PH12E	119	104
890-1831-8	PH13C	112	95
890-1831-9	PH06I	119	99
890-1831-10	PH10D	106	90
890-1831-11	PH09C	128	109
LCS 880-16866/1-A	Lab Control Sample	101	94
LCS 880-16867/1-A	Lab Control Sample	117	102
LCSD 880-16866/2-A	Lab Control Sample Dup	100	98
LCSD 880-16867/2-A	Lab Control Sample Dup	109	93
MB 880-16866/5-A	Method Blank	112	98
MB 880-16867/5-A	Method Blank	121	104

## 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	OTPH1
		(70-130)	(70-130)
890-1830-A-1-E MS	Matrix Spike	67 S1-	60 S1-
890-1830-A-1-F MSD	Matrix Spike Duplicate	77	68 S1-
890-1831-1	PH04	86	87
890-1831-1 MS	PH04	87	78
890-1831-1 MSD	PH04	82	76
890-1831-2	PH04A	106	104
890-1831-3	PH04B	83	78
890-1831-4	PH04C	95	97
890-1831-5	PH04D	84	80
890-1831-6	PH01	81	80
890-1831-7	PH12E	86	86
890-1831-8	PH13C	76	74
890-1831-9	PH06I	80	79
890-1831-10	PH10D	97	90
890-1831-11	PH09C	68 S1-	69 S1-
LCS 880-16978/2-A	Lab Control Sample	98	92
LCSD 880-16978/3-A	Lab Control Sample Dup	91	89
MB 880-16978/1-A	Method Blank	74	77

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Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

**Surrogate Legend**  
1CO = 1-Chlorooctane  
OTPH = o-Terphenyl

**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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-16979/2-A	Lab Control Sample	103	103
LCSD 880-16979/3-A	Lab Control Sample Dup	97	96
MB 880-16979/1-A	Method Blank	84	84

**Surrogate Legend**  
1CO = 1-Chlorooctane  
OTPH = o-Terphenyl

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-16866/5-A

Matrix: Solid

Analysis Batch: 16966

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16866

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 11:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 11:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 11:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 11:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 11:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 11:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	01/17/22 07:30	01/17/22 11:00	1
1,4-Difluorobenzene (Surr)	98		70 - 130	01/17/22 07:30	01/17/22 11:00	1

Lab Sample ID: LCS 880-16866/1-A

Matrix: Solid

Analysis Batch: 16966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16866

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08383		mg/Kg		84	70 - 130
Toluene	0.100	0.07952		mg/Kg		80	70 - 130
Ethylbenzene	0.100	0.07824		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	0.200	0.1639		mg/Kg		82	70 - 130
o-Xylene	0.100	0.08093		mg/Kg		81	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: LCSD 880-16866/2-A

Matrix: Solid

Analysis Batch: 16966

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16866

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08521		mg/Kg		85	70 - 130	2	35
Toluene	0.100	0.07770		mg/Kg		78	70 - 130	2	35
Ethylbenzene	0.100	0.07460		mg/Kg		75	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1541		mg/Kg		77	70 - 130	6	35
o-Xylene	0.100	0.07860		mg/Kg		79	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-1831-1 MSD

Matrix: Solid

Analysis Batch: 16966

Client Sample ID: PH04

Prep Type: Total/NA

Prep Batch: 16866

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.101	0.09613		mg/Kg					
Toluene	<0.00201	U	0.101	0.08518		mg/Kg					

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 890-1831-1 MSD

Matrix: Solid

Analysis Batch: 16966

Client Sample ID: PH04

Prep Type: Total/NA

Prep Batch: 16866

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00201	U	0.101	0.08842		mg/Kg					
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1819		mg/Kg					
o-Xylene	<0.00201	U	0.101	0.08978		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: MB 880-16867/5-A

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16867

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/17/22 07:30	01/17/22 10:53	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/17/22 07:30	01/17/22 10:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	01/17/22 07:30	01/17/22 10:53	1
1,4-Difluorobenzene (Surr)	104		70 - 130	01/17/22 07:30	01/17/22 10:53	1

Lab Sample ID: LCS 880-16867/1-A

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16867

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09568		mg/Kg		96	70 - 130
Toluene	0.100	0.09826		mg/Kg		98	70 - 130
Ethylbenzene	0.100	0.1055		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2080		mg/Kg		104	70 - 130
o-Xylene	0.100	0.1008		mg/Kg		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: LCSD 880-16867/2-A

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16867

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08583		mg/Kg		86	70 - 130	11	35
Toluene	0.100	0.09537		mg/Kg		95	70 - 130	3	35
Ethylbenzene	0.100	0.09776		mg/Kg		98	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1819		mg/Kg		91	70 - 130	13	35

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCSD 880-16867/2-A

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16867

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	0.100	0.08903		mg/Kg		89	70 - 130	12	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

Lab Sample ID: 890-1830-A-1-B MSD

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16867

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.1012		mg/Kg					
Toluene	<0.00200	U	0.0994	0.09193		mg/Kg					
Ethylbenzene	<0.00200	U	0.0994	0.09900		mg/Kg					
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1853		mg/Kg					
o-Xylene	<0.00200	U	0.0994	0.08833		mg/Kg					

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

Lab Sample ID: 890-1831-1 MS

Matrix: Solid

Analysis Batch: 16966

Client Sample ID: PH04

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: 890-1830-A-1-A MS

Matrix: Solid

Analysis Batch: 16967

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

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

Lab Sample ID: MB 880-16978/1-A

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16978

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		01/17/22 09:12	01/17/22 11:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 11:45	1

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-16978/1-A

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16978

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:12	01/17/22 11:45	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130			01/17/22 09:12	01/17/22 11:45	1
o-Terphenyl	77		70 - 130			01/17/22 09:12	01/17/22 11:45	1

Lab Sample ID: LCS 880-16978/2-A

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1033		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	1000	878.7		mg/Kg		88	70 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
1-Chlorooctane	98		70 - 130				
o-Terphenyl	92		70 - 130				

Lab Sample ID: LCSD 880-16978/3-A

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16978

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1022		mg/Kg		102	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	894.7		mg/Kg		89	70 - 130	2	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	91		70 - 130						
o-Terphenyl	89		70 - 130						

Lab Sample ID: 890-1830-A-1-E MS

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16978

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 F1	999	1350	F1	mg/Kg		135	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1144		mg/Kg		112	70 - 130
Surrogate	%Recovery	MS Qualifier	Limits						
1-Chlorooctane	67	S1-	70 - 130						
o-Terphenyl	60	S1-	70 - 130						

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 890-1830-A-1-F MSD

Matrix: Solid

Analysis Batch: 16964

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16978

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 F1	998	1508	F1	mg/Kg		151	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1308		mg/Kg		129	70 - 130	13	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	77		70 - 130								
o-Terphenyl	68	S1-	70 - 130								

Lab Sample ID: MB 880-16979/1-A

Matrix: Solid

Analysis Batch: 16961

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16979

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		01/17/22 09:16	01/17/22 11:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 11:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/17/22 09:16	01/17/22 11:45	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130			01/17/22 09:16	01/17/22 11:45	1
o-Terphenyl	84		70 - 130			01/17/22 09:16	01/17/22 11:45	1

Lab Sample ID: LCS 880-16979/2-A

Matrix: Solid

Analysis Batch: 16961

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	843.6		mg/Kg		84	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	882.3		mg/Kg		88	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
1-Chlorooctane	103		70 - 130					
o-Terphenyl	103		70 - 130					

Lab Sample ID: LCSD 880-16979/3-A

Matrix: Solid

Analysis Batch: 16961

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16979

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	840.6		mg/Kg		84	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	1000	846.2		mg/Kg		85	70 - 130	4	20

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCSD 880-16979/3-A

Matrix: Solid

Analysis Batch: 16961

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16979

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: 890-1831-1 MS

Matrix: Solid

Analysis Batch: 16961

Client Sample ID: PH04

Prep Type: Total/NA

Prep Batch: 16979

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	999	1175		mg/Kg		114	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	961.0		mg/Kg		91	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	78		70 - 130

Lab Sample ID: 890-1831-1 MSD

Matrix: Solid

Analysis Batch: 16961

Client Sample ID: PH04

Prep Type: Total/NA

Prep Batch: 16979

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	1159		mg/Kg		113	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	949.4		mg/Kg		90	70 - 130	1	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	76		70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-17007/1-A

Matrix: Solid

Analysis Batch: 17057

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			01/17/22 13:59	1

Lab Sample ID: LCS 880-17007/2-A

Matrix: Solid

Analysis Batch: 17057

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	266.8		mg/Kg		107	90 - 110

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-17007/3-A

Matrix: Solid

Analysis Batch: 17057

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	250.1		mg/Kg		100	90 - 110	6	20

Lab Sample ID: 890-1831-2 MS

Matrix: Solid

Analysis Batch: 17057

Client Sample ID: PH04A

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	64.7		253	327.4		mg/Kg		104	90 - 110		

Lab Sample ID: 890-1831-2 MSD

Matrix: Solid

Analysis Batch: 17057

Client Sample ID: PH04A

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	64.7		253	322.8		mg/Kg		102	90 - 110	1	20

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 16866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-1	PH04	Total/NA	Solid	5035	
890-1831-2	PH04A	Total/NA	Solid	5035	
890-1831-3	PH04B	Total/NA	Solid	5035	
890-1831-4	PH04C	Total/NA	Solid	5035	
890-1831-5	PH04D	Total/NA	Solid	5035	
890-1831-6	PH01	Total/NA	Solid	5035	
890-1831-7	PH12E	Total/NA	Solid	5035	
890-1831-8	PH13C	Total/NA	Solid	5035	
890-1831-9	PH06I	Total/NA	Solid	5035	
890-1831-10	PH10D	Total/NA	Solid	5035	
MB 880-16866/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16866/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16866/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1831-1 MSD	PH04	Total/NA	Solid	5035	

## Prep Batch: 16867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-11	PH09C	Total/NA	Solid	5035	
MB 880-16867/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16867/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16867/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1830-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 16966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-1	PH04	Total/NA	Solid	8021B	16866
890-1831-2	PH04A	Total/NA	Solid	8021B	16866
890-1831-3	PH04B	Total/NA	Solid	8021B	16866
890-1831-4	PH04C	Total/NA	Solid	8021B	16866
890-1831-5	PH04D	Total/NA	Solid	8021B	16866
890-1831-6	PH01	Total/NA	Solid	8021B	16866
890-1831-7	PH12E	Total/NA	Solid	8021B	16866
890-1831-8	PH13C	Total/NA	Solid	8021B	16866
890-1831-9	PH06I	Total/NA	Solid	8021B	16866
890-1831-10	PH10D	Total/NA	Solid	8021B	16866
MB 880-16866/5-A	Method Blank	Total/NA	Solid	8021B	16866
LCS 880-16866/1-A	Lab Control Sample	Total/NA	Solid	8021B	16866
LCSD 880-16866/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16866
890-1831-1 MS	PH04	Total/NA	Solid	8021B	
890-1831-1 MSD	PH04	Total/NA	Solid	8021B	16866

## Analysis Batch: 16967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-11	PH09C	Total/NA	Solid	8021B	16867
MB 880-16867/5-A	Method Blank	Total/NA	Solid	8021B	16867
LCS 880-16867/1-A	Lab Control Sample	Total/NA	Solid	8021B	16867
LCSD 880-16867/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16867
890-1830-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	
890-1830-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	16867

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Analysis Batch: 17056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-1	PH04	Total/NA	Solid	Total BTEX	
890-1831-2	PH04A	Total/NA	Solid	Total BTEX	
890-1831-3	PH04B	Total/NA	Solid	Total BTEX	
890-1831-4	PH04C	Total/NA	Solid	Total BTEX	
890-1831-5	PH04D	Total/NA	Solid	Total BTEX	
890-1831-6	PH01	Total/NA	Solid	Total BTEX	
890-1831-7	PH12E	Total/NA	Solid	Total BTEX	
890-1831-8	PH13C	Total/NA	Solid	Total BTEX	
890-1831-9	PH06I	Total/NA	Solid	Total BTEX	
890-1831-10	PH10D	Total/NA	Solid	Total BTEX	
890-1831-11	PH09C	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 16961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-1	PH04	Total/NA	Solid	8015B NM	16979
890-1831-2	PH04A	Total/NA	Solid	8015B NM	16979
890-1831-3	PH04B	Total/NA	Solid	8015B NM	16979
890-1831-4	PH04C	Total/NA	Solid	8015B NM	16979
890-1831-5	PH04D	Total/NA	Solid	8015B NM	16979
890-1831-6	PH01	Total/NA	Solid	8015B NM	16979
890-1831-7	PH12E	Total/NA	Solid	8015B NM	16979
890-1831-8	PH13C	Total/NA	Solid	8015B NM	16979
890-1831-9	PH06I	Total/NA	Solid	8015B NM	16979
890-1831-10	PH10D	Total/NA	Solid	8015B NM	16979
MB 880-16979/1-A	Method Blank	Total/NA	Solid	8015B NM	16979
LCS 880-16979/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16979
LCSD 880-16979/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16979
890-1831-1 MS	PH04	Total/NA	Solid	8015B NM	16979
890-1831-1 MSD	PH04	Total/NA	Solid	8015B NM	16979

## Analysis Batch: 16964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-11	PH09C	Total/NA	Solid	8015B NM	16978
MB 880-16978/1-A	Method Blank	Total/NA	Solid	8015B NM	16978
LCS 880-16978/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16978
LCSD 880-16978/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16978
890-1830-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	16978
890-1830-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	16978

## Prep Batch: 16978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-11	PH09C	Total/NA	Solid	8015NM Prep	
MB 880-16978/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16978/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16978/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1830-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1830-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## GC Semi VOA

## Prep Batch: 16979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-1	PH04	Total/NA	Solid	8015NM Prep	
890-1831-2	PH04A	Total/NA	Solid	8015NM Prep	
890-1831-3	PH04B	Total/NA	Solid	8015NM Prep	
890-1831-4	PH04C	Total/NA	Solid	8015NM Prep	
890-1831-5	PH04D	Total/NA	Solid	8015NM Prep	
890-1831-6	PH01	Total/NA	Solid	8015NM Prep	
890-1831-7	PH12E	Total/NA	Solid	8015NM Prep	
890-1831-8	PH13C	Total/NA	Solid	8015NM Prep	
890-1831-9	PH06I	Total/NA	Solid	8015NM Prep	
890-1831-10	PH10D	Total/NA	Solid	8015NM Prep	
MB 880-16979/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16979/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16979/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1831-1 MS	PH04	Total/NA	Solid	8015NM Prep	
890-1831-1 MSD	PH04	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 17055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-1	PH04	Total/NA	Solid	8015 NM	
890-1831-2	PH04A	Total/NA	Solid	8015 NM	
890-1831-3	PH04B	Total/NA	Solid	8015 NM	
890-1831-4	PH04C	Total/NA	Solid	8015 NM	
890-1831-5	PH04D	Total/NA	Solid	8015 NM	
890-1831-6	PH01	Total/NA	Solid	8015 NM	
890-1831-7	PH12E	Total/NA	Solid	8015 NM	
890-1831-8	PH13C	Total/NA	Solid	8015 NM	
890-1831-9	PH06I	Total/NA	Solid	8015 NM	
890-1831-10	PH10D	Total/NA	Solid	8015 NM	
890-1831-11	PH09C	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 17007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-1	PH04	Soluble	Solid	DI Leach	
890-1831-2	PH04A	Soluble	Solid	DI Leach	
890-1831-3	PH04B	Soluble	Solid	DI Leach	
890-1831-4	PH04C	Soluble	Solid	DI Leach	
890-1831-5	PH04D	Soluble	Solid	DI Leach	
890-1831-6	PH01	Soluble	Solid	DI Leach	
890-1831-7	PH12E	Soluble	Solid	DI Leach	
890-1831-8	PH13C	Soluble	Solid	DI Leach	
890-1831-9	PH06I	Soluble	Solid	DI Leach	
890-1831-10	PH10D	Soluble	Solid	DI Leach	
890-1831-11	PH09C	Soluble	Solid	DI Leach	
MB 880-17007/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-17007/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-17007/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1831-2 MS	PH04A	Soluble	Solid	DI Leach	
890-1831-2 MSD	PH04A	Soluble	Solid	DI Leach	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## HPLC/IC

## Analysis Batch: 17057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1831-1	PH04	Soluble	Solid	300.0	17007
890-1831-2	PH04A	Soluble	Solid	300.0	17007
890-1831-3	PH04B	Soluble	Solid	300.0	17007
890-1831-4	PH04C	Soluble	Solid	300.0	17007
890-1831-5	PH04D	Soluble	Solid	300.0	17007
890-1831-6	PH01	Soluble	Solid	300.0	17007
890-1831-7	PH12E	Soluble	Solid	300.0	17007
890-1831-8	PH13C	Soluble	Solid	300.0	17007
890-1831-9	PH06I	Soluble	Solid	300.0	17007
890-1831-10	PH10D	Soluble	Solid	300.0	17007
890-1831-11	PH09C	Soluble	Solid	300.0	17007
MB 880-17007/1-A	Method Blank	Soluble	Solid	300.0	17007
LCS 880-17007/2-A	Lab Control Sample	Soluble	Solid	300.0	17007
LCSD 880-17007/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	17007
890-1831-2 MS	PH04A	Soluble	Solid	300.0	17007
890-1831-2 MSD	PH04A	Soluble	Solid	300.0	17007

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH04

Lab Sample ID: 890-1831-1

Date Collected: 01/12/22 13:40

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 11:21	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 12:48	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 17:13	SC	XEN MID

Client Sample ID: PH04A

Lab Sample ID: 890-1831-2

Date Collected: 01/12/22 13:45

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 11:42	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 13:51	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 17:20	SC	XEN MID

Client Sample ID: PH04B

Lab Sample ID: 890-1831-3

Date Collected: 01/12/22 13:50

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 12:02	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 14:12	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 17:43	SC	XEN MID

Client Sample ID: PH04C

Lab Sample ID: 890-1831-4

Date Collected: 01/12/22 14:00

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 12:23	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH04C

Lab Sample ID: 890-1831-4

Date Collected: 01/12/22 14:00

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 14:33	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 17:51	SC	XEN MID

Client Sample ID: PH04D

Lab Sample ID: 890-1831-5

Date Collected: 01/12/22 14:05

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 12:43	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 14:54	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 18:14	SC	XEN MID

Client Sample ID: PH01

Lab Sample ID: 890-1831-6

Date Collected: 01/12/22 09:45

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 13:03	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 15:15	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 18:21	SC	XEN MID

Client Sample ID: PH12E

Lab Sample ID: 890-1831-7

Date Collected: 01/12/22 10:30

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 13:24	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 15:36	AJ	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH12E

Date Collected: 01/12/22 10:30

Date Received: 01/14/22 08:07

## Lab Sample ID: 890-1831-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 18:29	SC	XEN MID

## Client Sample ID: PH13C

Date Collected: 01/12/22 10:15

Date Received: 01/14/22 08:07

## Lab Sample ID: 890-1831-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 13:44	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 15:57	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 18:36	SC	XEN MID

## Client Sample ID: PH06I

Date Collected: 01/13/22 09:20

Date Received: 01/14/22 08:07

## Lab Sample ID: 890-1831-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 14:05	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 16:18	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 18:44	SC	XEN MID

## Client Sample ID: PH10D

Date Collected: 01/13/22 09:55

Date Received: 01/14/22 08:07

## Lab Sample ID: 890-1831-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16866	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16966	01/17/22 14:25	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16979	01/17/22 09:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16961	01/17/22 16:39	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 18:52	SC	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH09C

Lab Sample ID: 890-1831-11

Date Collected: 01/13/22 15:25

Matrix: Solid

Date Received: 01/14/22 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16867	01/17/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16967	01/17/22 14:26	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16978	01/17/22 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16964	01/17/22 16:43	AJ	XEN MID
Soluble	Leach	DI Leach			17007	01/17/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1	17057	01/17/22 18:59	SC	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: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

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: Remuda Basin State 002

Job ID: 890-1831-1  
SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1831-1	PH04	Solid	01/12/22 13:40	01/14/22 08:07	1
890-1831-2	PH04A	Solid	01/12/22 13:45	01/14/22 08:07	2
890-1831-3	PH04B	Solid	01/12/22 13:50	01/14/22 08:07	3
890-1831-4	PH04C	Solid	01/12/22 14:00	01/14/22 08:07	4
890-1831-5	PH04D	Solid	01/12/22 14:05	01/14/22 08:07	5
890-1831-6	PH01	Solid	01/12/22 09:45	01/14/22 08:07	4
890-1831-7	PH12E	Solid	01/12/22 10:30	01/14/22 08:07	6
890-1831-8	PH13C	Solid	01/12/22 10:15	01/14/22 08:07	4
890-1831-9	PH06I	Solid	01/13/22 09:20	01/14/22 08:07	10
890-1831-10	PH10D	Solid	01/13/22 09:55	01/14/22 08:07	5
890-1831-11	PH09C	Solid	01/13/22 15:25	01/14/22 08:07	5



## Chain of Custody

Work Order No: \_\_\_\_\_

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) 565-3443 Lubbock, TX (806) 794-1296  
 Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

www.xenco.com

Page 1 of 2

Project Manager:	Aimee Cole	Bill to: (if different)	<del>Aimee Cole</del> ADELIAW BAKER
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:	Arvada, CO 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:	720.384.7365	Email:	conner.shore@wsp.com; aimee.cole@wsp.com

Program: UST/PST	<input type="checkbox"/> RP	<input type="checkbox"/> Rowfields	<input type="checkbox"/> C	<input type="checkbox"/> Pertund
State of Project:				
Reporting Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> ST/UST	<input type="checkbox"/> RP	<input type="checkbox"/> Level IV
Deliverables: EDD	<input type="checkbox"/>	ADAPT	<input type="checkbox"/>	Other:

Project Name:	Remuda Basin State 002	Turn Around	<input type="checkbox"/>
Project Number:	31403236.001.0129.35.02	Routine	<input type="checkbox"/>
P.O. Number:		Rush: 24hr TAT	
Sampler's Name:	Conner Shore	Due Date:	

<b>SAMPLE RECEIPT</b>	Temp Blank:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Temperature (°C):	1.2/1.0	Thermometer ID				
Received Intact:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Correction Factor: -0.2			
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Total Containers:			
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No				

890-1831 Chain of Custody



Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers																		
					TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)																
PH04	S	1/12/2022	1340	1'	X	X	X																
PH04	S	1/12/2022	1345	2'	X	X	X																
PH04	S	1/12/2022	1350	3'	X	X	X																
PH04	S	1/12/2022	1400	4'	X	X	X																
PH04	S	1/12/2022	1405	5'	X	X	X																
PH01	S	1/12/2022	945	4'	X	X	X																
PH12	S	1/12/2022	1030	6'	X	X	X																
PH13	S	1/12/2022	1015	4'	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 Ti 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 Ti 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
<i>[Signature]</i>	<i>[Signature]</i>	1-14-22 0809			



## Chain of Custody

**Work Order No:**

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0330 San Antonio, TX (210) 509-3334  
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296  
Phoenix, AZ (602) 382-7550 Atlanta, GA (770) 449-8800 Tampa, FL (813) 233-3333  
Hobbs, NM (505) 382-7550

**www.xenco.com**

Page 1 of 1



Project Manager:	Aimee Cole	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:	Avada, CO 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:	720.384.7365	Email:	conner.shore@wsp.com, aimee.cole@wsp.com

Work Order Comments				
Program: UST/PST	<input type="checkbox"/> RP	<input type="checkbox"/> Rowfields	<input type="checkbox"/> C	<input type="checkbox"/> perfund
State of Project:				
Reporting: Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> ST/UST	<input type="checkbox"/> RP	<input type="checkbox"/> Level IV
Deliverables: EDD	<input type="checkbox"/>	ADaPT	<input type="checkbox"/>	Other:

[illegible][illegible]

Circle Method(s) and Metal(s) to be analyzed	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 SiO <sub>2</sub> Na Sr Ti Sn U V Zn		
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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 \$3 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
		1-14-22 0807			

Revised Date Details Box 2016

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1831-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1831****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: 890-1831-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1831****List Number: 2****Creator: Rodriguez, Leticia****List Source: Eurofins Midland****List Creation: 01/17/22 09:43 AM**

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	





## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1849-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02  
Client Project/Site: Remuda Basin State #2  
Revision: 1

**For:**

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

Attn: Aimee Cole

Authorized for release by:  
1/25/2022 1:38:00 PM

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

#### LINKS

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

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



Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

### Job ID: 890-1849-1

### Laboratory: Eurofins Carlsbad

#### Narrative

#### Job Narrative 890-1849-1

#### REVISION

The report being provided is a revision of the original report sent on 1/21/2022. The report (revision 1) is being revised due to Per client email, requesting re run on sample PH 16 (@20') for chloride..

Report revision history

#### Receipt

The samples were received on 1/19/2022 4:16 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

#### GC VOA

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

#### GC Semi VOA

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-17333 and analytical batch 880-17443 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: PH16A (890-1849-2), PH16B (890-1849-3), PH16C (890-1849-4) and PH16D (890-1849-5). 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

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-17449 and 880-17449 and analytical batch 880-17490 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.

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH16

Lab Sample ID: 890-1849-1

Date Collected: 01/14/22 14:20

Matrix: Solid

Date Received: 01/19/22 16:16

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		01/21/22 13:48	01/21/22 14:39	1
Toluene	<0.00198	U	0.00198	mg/Kg		01/21/22 13:48	01/21/22 14:39	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		01/21/22 13:48	01/21/22 14:39	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		01/21/22 13:48	01/21/22 14:39	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		01/21/22 13:48	01/21/22 14:39	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		01/21/22 13:48	01/21/22 14:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	01/21/22 13:48	01/21/22 14:39	1
1,4-Difluorobenzene (Surr)	88		70 - 130	01/21/22 13:48	01/21/22 14:39	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			01/20/22 16:32	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			01/21/22 14:20	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 *- *1	50.0	mg/Kg		01/20/22 12:53	01/21/22 14:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/20/22 12:53	01/21/22 14:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/20/22 12:53	01/21/22 14:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	70		70 - 130	01/20/22 12:53	01/21/22 14:13	1
o-Terphenyl	70		70 - 130	01/20/22 12:53	01/21/22 14:13	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11900		99.8	mg/Kg			01/21/22 17:08	20

Client Sample ID: PH16A

Lab Sample ID: 890-1849-2

Date Collected: 01/14/22 14:50

Matrix: Solid

Date Received: 01/19/22 16:16

Sample Depth: 10

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/21/22 13:48	01/21/22 14:59	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/21/22 13:48	01/21/22 14:59	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/21/22 13:48	01/21/22 14:59	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/21/22 13:48	01/21/22 14:59	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/21/22 13:48	01/21/22 14:59	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/21/22 13:48	01/21/22 14:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	01/21/22 13:48	01/21/22 14:59	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH16A

Lab Sample ID: 890-1849-2

Date Collected: 01/14/22 14:50

Matrix: Solid

Date Received: 01/19/22 16:16

Sample Depth: 10

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	100		70 - 130	01/21/22 13:48	01/21/22 14:59	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			01/20/22 16:32	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			01/21/22 14:20	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 *- *1	49.9	mg/Kg		01/20/22 12:53	01/21/22 14:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/20/22 12:53	01/21/22 14:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/20/22 12:53	01/21/22 14:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130			01/20/22 12:53	01/21/22 14:34	1
o-Terphenyl	69	S1-	70 - 130			01/20/22 12:53	01/21/22 14:34	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400		50.4	mg/Kg			01/21/22 17:15	10

Client Sample ID: PH16B

Lab Sample ID: 890-1849-3

Date Collected: 01/14/22 09:30

Matrix: Solid

Date Received: 01/19/22 16:16

Sample Depth: 15

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/21/22 13:48	01/21/22 15:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/21/22 13:48	01/21/22 15:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/21/22 13:48	01/21/22 15:20	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/21/22 13:48	01/21/22 15:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/21/22 13:48	01/21/22 15:20	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/21/22 13:48	01/21/22 15:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	148	S1+	70 - 130	01/21/22 13:48	01/21/22 15:20	1
1,4-Difluorobenzene (Surr)	117		70 - 130	01/21/22 13:48	01/21/22 15:20	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			01/20/22 16:32	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			01/21/22 14:20	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH16B

Date Collected: 01/14/22 09:30

Date Received: 01/19/22 16:16

Sample Depth: 15

## Lab Sample ID: 890-1849-3

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 *- *1	49.9	mg/Kg		01/20/22 12:53	01/21/22 14:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/20/22 12:53	01/21/22 14:55	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/20/22 12:53	01/21/22 14:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	67	S1-	70 - 130			01/20/22 12:53	01/21/22 14:55	1
o-Terphenyl	63	S1-	70 - 130			01/20/22 12:53	01/21/22 14:55	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	979		49.8	mg/Kg			01/21/22 17:38	10

## Client Sample ID: PH16C

Date Collected: 01/14/22 10:00

Date Received: 01/19/22 16:16

Sample Depth: 16

## Lab Sample ID: 890-1849-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/21/22 13:48	01/21/22 15:40	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/21/22 13:48	01/21/22 15:40	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/21/22 13:48	01/21/22 15:40	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/21/22 13:48	01/21/22 15:40	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/21/22 13:48	01/21/22 15:40	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/21/22 13:48	01/21/22 15:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			01/21/22 13:48	01/21/22 15:40	1
1,4-Difluorobenzene (Surr)	88		70 - 130			01/21/22 13:48	01/21/22 15:40	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			01/20/22 16:32	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			01/21/22 14:20	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 *- *1	50.0	mg/Kg		01/20/22 12:53	01/21/22 15:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/20/22 12:53	01/21/22 15:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/20/22 12:53	01/21/22 15:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	67	S1-	70 - 130			01/20/22 12:53	01/21/22 15:15	1
o-Terphenyl	65	S1-	70 - 130			01/20/22 12:53	01/21/22 15:15	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH16C

Date Collected: 01/14/22 10:00

Date Received: 01/19/22 16:16

Sample Depth: 16

## Lab Sample ID: 890-1849-4

Matrix: Solid

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	694		49.5	mg/Kg			01/21/22 17:45	10

## Client Sample ID: PH16D

Date Collected: 01/14/22 15:00

Date Received: 01/19/22 16:16

Sample Depth: 20

## Lab Sample ID: 890-1849-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/21/22 13:48	01/21/22 16:00	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/21/22 13:48	01/21/22 16:00	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/21/22 13:48	01/21/22 16:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/21/22 13:48	01/21/22 16:00	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/21/22 13:48	01/21/22 16:00	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/21/22 13:48	01/21/22 16:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130			01/21/22 13:48	01/21/22 16:00	1
1,4-Difluorobenzene (Surr)	104		70 - 130			01/21/22 13:48	01/21/22 16:00	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			01/20/22 16:32	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			01/21/22 14:20	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 *- *1	49.9	mg/Kg		01/20/22 12:53	01/21/22 15:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/20/22 12:53	01/21/22 15:36	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/20/22 12:53	01/21/22 15:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	66	S1-	70 - 130			01/20/22 12:53	01/21/22 15:36	1
o-Terphenyl	63	S1-	70 - 130			01/20/22 12:53	01/21/22 15:36	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	477		4.98	mg/Kg			01/24/22 16:20	1

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## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

## 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)
820-3188-A-21-A MS	Matrix Spike	108	95
820-3188-A-21-B MSD	Matrix Spike Duplicate	103	94
890-1849-1	PH16	130	88
890-1849-2	PH16A	119	100
890-1849-3	PH16B	148 S1+	117
890-1849-4	PH16C	105	88
890-1849-5	PH16D	131 S1+	104
LCS 880-17169/1-A	Lab Control Sample	95	107
LCS 880-17426/1-A	Lab Control Sample	100	101
LCSD 880-17169/2-A	Lab Control Sample Dup	95	101
LCSD 880-17426/2-A	Lab Control Sample Dup	104	94
MB 880-17169/5-A	Method Blank	109	103
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1	DFBZ1
890-1843-A-21-B MSD	Matrix Spike Duplicate		
<b>Surrogate Legend</b>			
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)
880-10392-A-1-C MS	Matrix Spike	67 S1-	64 S1-
880-10392-A-1-D MSD	Matrix Spike Duplicate	75	77
890-1849-1	PH16	70	70
890-1849-2	PH16A	71	69 S1-
890-1849-3	PH16B	67 S1-	63 S1-
890-1849-4	PH16C	67 S1-	65 S1-
890-1849-5	PH16D	66 S1-	63 S1-
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-17333/2-A	Lab Control Sample	87	88
LCSD 880-17333/3-A	Lab Control Sample Dup	81	80
MB 880-17333/1-A	Method Blank	95	93
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-17169/5-A

Matrix: Solid

Analysis Batch: 17429

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17169

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/19/22 13:48	01/21/22 12:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/19/22 13:48	01/21/22 12:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/19/22 13:48	01/21/22 12:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/19/22 13:48	01/21/22 12:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/19/22 13:48	01/21/22 12:04	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/19/22 13:48	01/21/22 12:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	01/19/22 13:48	01/21/22 12:04	1
1,4-Difluorobenzene (Surr)	103		70 - 130	01/19/22 13:48	01/21/22 12:04	1

Lab Sample ID: LCS 880-17169/1-A

Matrix: Solid

Analysis Batch: 17429

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08823		mg/Kg		88	70 - 130
Toluene	0.100	0.07876		mg/Kg		79	70 - 130
Ethylbenzene	0.100	0.07399		mg/Kg		74	70 - 130
m-Xylene & p-Xylene	0.200	0.1521		mg/Kg		76	70 - 130
o-Xylene	0.100	0.08095		mg/Kg		81	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-17169/2-A

Matrix: Solid

Analysis Batch: 17429

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17169

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09770		mg/Kg		98	70 - 130	10	35
Toluene	0.100	0.08720		mg/Kg		87	70 - 130	10	35
Ethylbenzene	0.100	0.08342		mg/Kg		83	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.1673		mg/Kg		84	70 - 130	9	35
o-Xylene	0.100	0.08484		mg/Kg		85	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-1843-A-21-B MSD

Matrix: Solid

Analysis Batch: 17429

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 17169

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.07840		mg/Kg					
Toluene	<0.00201	U	0.0990	0.06934		mg/Kg					

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 890-1843-A-21-B MSD

Matrix: Solid

Analysis Batch: 17429

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 17169

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00201	U	0.0990	0.06580		mg/Kg					
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1343		mg/Kg					
o-Xylene	<0.00201	U	0.0990	0.06788		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)			
1,4-Difluorobenzene (Surr)			

Lab Sample ID: LCS 880-17426/1-A

Matrix: Solid

Analysis Batch: 17429

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09060		mg/Kg		91	70 - 130		
Toluene	0.100	0.08073		mg/Kg		81	70 - 130		
Ethylbenzene	0.100	0.07731		mg/Kg		77	70 - 130		
m-Xylene & p-Xylene	0.200	0.1543		mg/Kg		77	70 - 130		
o-Xylene	0.100	0.07819		mg/Kg		78	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: LCSD 880-17426/2-A

Matrix: Solid

Analysis Batch: 17429

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17426

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08899		mg/Kg		89	70 - 130	2	35
Toluene	0.100	0.08118		mg/Kg		81	70 - 130	1	35
Ethylbenzene	0.100	0.07771		mg/Kg		78	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1613		mg/Kg		81	70 - 130	4	35
o-Xylene	0.100	0.07892		mg/Kg		79	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 820-3188-A-21-B MSD

Matrix: Solid

Analysis Batch: 17429

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 17426

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.06041		mg/Kg					
Toluene	<0.00199	U	0.101	0.05726		mg/Kg					
Ethylbenzene	<0.00199	U	0.101	0.05610		mg/Kg					
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1137		mg/Kg					
o-Xylene	<0.00199	U	0.101	0.05557		mg/Kg					

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 820-3188-A-21-A MS  
Matrix: Solid  
Analysis Batch: 17429

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

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

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

Lab Sample ID: MB 880-17333/1-A  
Matrix: Solid  
Analysis Batch: 17443

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 17333

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		01/20/22 08:53	01/21/22 12:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/20/22 08:53	01/21/22 12:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/20/22 08:53	01/21/22 12:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	01/20/22 08:53	01/21/22 12:08	1
o-Terphenyl	93		70 - 130	01/20/22 08:53	01/21/22 12:08	1

Lab Sample ID: LCS 880-17333/2-A  
Matrix: Solid  
Analysis Batch: 17443

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 17333

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	774.6		mg/Kg		77	70 - 130
Diesel Range Organics (Over C10-C28)	1000	750.6		mg/Kg		75	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	88		70 - 130

Lab Sample ID: LCSD 880-17333/3-A  
Matrix: Solid  
Analysis Batch: 17443

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 17333

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	548.1	*- *1	mg/Kg		55	70 - 130	34	20
Diesel Range Organics (Over C10-C28)	1000	760.3		mg/Kg		76	70 - 130	1	20

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCSD 880-17333/3-A

Matrix: Solid

Analysis Batch: 17443

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17333

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: 880-10392-A-1-C MS

Matrix: Solid

Analysis Batch: 17443

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 17333

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *- *1	997	866.1		mg/Kg		82	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	961.9		mg/Kg		96	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	67	S1-	70 - 130						
o-Terphenyl	64	S1-	70 - 130						

Lab Sample ID: 880-10392-A-1-D MSD

Matrix: Solid

Analysis Batch: 17443

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 17333

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *- *1	996	950.0		mg/Kg		91	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	1141		mg/Kg		115	70 - 130	17	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	75		70 - 130								
o-Terphenyl	77		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-17449/1-A

Matrix: Solid

Analysis Batch: 17490

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			01/21/22 13:59	1

Lab Sample ID: LCS 880-17449/2-A

Matrix: Solid

Analysis Batch: 17490

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	271.8		mg/Kg		109	90 - 110

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-17449/3-A

Matrix: Solid

Analysis Batch: 17490

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	271.9		mg/Kg		109	90 - 110	0	20

Lab Sample ID: 880-10451-A-1-B MS

Matrix: Solid

Analysis Batch: 17490

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	12.5	F1	250	321.4	F1	mg/Kg		124	90 - 110		

Lab Sample ID: 880-10451-A-1-C MSD

Matrix: Solid

Analysis Batch: 17490

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	12.5	F1	250	328.4	F1	mg/Kg		126	90 - 110	2	20

Lab Sample ID: MB 880-17549/1-A

Matrix: Solid

Analysis Batch: 17592

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			01/24/22 12:41	1

Lab Sample ID: LCS 880-17549/2-A

Matrix: Solid

Analysis Batch: 17592

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	273.2		mg/Kg		109	90 - 110		

Lab Sample ID: LCSD 880-17549/3-A

Matrix: Solid

Analysis Batch: 17592

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	273.8		mg/Kg		110	90 - 110	0	20

Lab Sample ID: 880-10477-A-1-B MS

Matrix: Solid

Analysis Batch: 17592

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	32.9		250	300.5		mg/Kg		107	90 - 110		

Lab Sample ID: 880-10477-A-1-C MSD

Matrix: Solid

Analysis Batch: 17592

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	32.9		250	299.4		mg/Kg		107	90 - 110	0	20

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 17169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-1	PH16	Total/NA	Solid	5035	
890-1849-2	PH16A	Total/NA	Solid	5035	
890-1849-3	PH16B	Total/NA	Solid	5035	
890-1849-4	PH16C	Total/NA	Solid	5035	
890-1849-5	PH16D	Total/NA	Solid	5035	
MB 880-17169/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-17169/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-17169/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1843-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 17403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-1	PH16	Total/NA	Solid	Total BTEX	
890-1849-2	PH16A	Total/NA	Solid	Total BTEX	
890-1849-3	PH16B	Total/NA	Solid	Total BTEX	
890-1849-4	PH16C	Total/NA	Solid	Total BTEX	
890-1849-5	PH16D	Total/NA	Solid	Total BTEX	

## Prep Batch: 17426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-17426/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-17426/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-3188-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 17429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-1	PH16	Total/NA	Solid	8021B	17169
890-1849-2	PH16A	Total/NA	Solid	8021B	17169
890-1849-3	PH16B	Total/NA	Solid	8021B	17169
890-1849-4	PH16C	Total/NA	Solid	8021B	17169
890-1849-5	PH16D	Total/NA	Solid	8021B	17169
MB 880-17169/5-A	Method Blank	Total/NA	Solid	8021B	17169
LCS 880-17169/1-A	Lab Control Sample	Total/NA	Solid	8021B	17169
LCS 880-17426/1-A	Lab Control Sample	Total/NA	Solid	8021B	17426
LCSD 880-17169/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	17169
LCSD 880-17426/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	17426
820-3188-A-21-A MS	Matrix Spike	Total/NA	Solid	8021B	
820-3188-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	17426
890-1843-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	17169

## GC Semi VOA

## Prep Batch: 17333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-1	PH16	Total/NA	Solid	8015NM Prep	
890-1849-2	PH16A	Total/NA	Solid	8015NM Prep	
890-1849-3	PH16B	Total/NA	Solid	8015NM Prep	
890-1849-4	PH16C	Total/NA	Solid	8015NM Prep	
890-1849-5	PH16D	Total/NA	Solid	8015NM Prep	
MB 880-17333/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-17333/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

## GC Semi VOA (Continued)

## Prep Batch: 17333 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-17333/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-10392-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-10392-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 17443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-1	PH16	Total/NA	Solid	8015B NM	17333
890-1849-2	PH16A	Total/NA	Solid	8015B NM	17333
890-1849-3	PH16B	Total/NA	Solid	8015B NM	17333
890-1849-4	PH16C	Total/NA	Solid	8015B NM	17333
890-1849-5	PH16D	Total/NA	Solid	8015B NM	17333
MB 880-17333/1-A	Method Blank	Total/NA	Solid	8015B NM	17333
LCS 880-17333/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	17333
LCSD 880-17333/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	17333
880-10392-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	17333
880-10392-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	17333

## Analysis Batch: 17483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-1	PH16	Total/NA	Solid	8015 NM	
890-1849-2	PH16A	Total/NA	Solid	8015 NM	
890-1849-3	PH16B	Total/NA	Solid	8015 NM	
890-1849-4	PH16C	Total/NA	Solid	8015 NM	
890-1849-5	PH16D	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 17449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-1	PH16	Soluble	Solid	DI Leach	
890-1849-2	PH16A	Soluble	Solid	DI Leach	
890-1849-3	PH16B	Soluble	Solid	DI Leach	
890-1849-4	PH16C	Soluble	Solid	DI Leach	
MB 880-17449/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-17449/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-17449/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-10451-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-10451-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 17490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-1	PH16	Soluble	Solid	300.0	17449
890-1849-2	PH16A	Soluble	Solid	300.0	17449
890-1849-3	PH16B	Soluble	Solid	300.0	17449
890-1849-4	PH16C	Soluble	Solid	300.0	17449
MB 880-17449/1-A	Method Blank	Soluble	Solid	300.0	17449
LCS 880-17449/2-A	Lab Control Sample	Soluble	Solid	300.0	17449
LCSD 880-17449/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	17449
880-10451-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	17449
880-10451-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	17449

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

## HPLC/IC

## Leach Batch: 17549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-5	PH16D	Soluble	Solid	DI Leach	
MB 880-17549/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-17549/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-17549/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-10477-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-10477-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 17592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1849-5	PH16D	Soluble	Solid	300.0	17549
MB 880-17549/1-A	Method Blank	Soluble	Solid	300.0	17549
LCS 880-17549/2-A	Lab Control Sample	Soluble	Solid	300.0	17549
LCSD 880-17549/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	17549
880-10477-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	17549
880-10477-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	17549

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH16

Lab Sample ID: 890-1849-1

Date Collected: 01/14/22 14:20

Matrix: Solid

Date Received: 01/19/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17169	01/21/22 13:48	KL	XEN MID
Total/NA	Analysis	8021B		1	17429	01/21/22 14:39	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17403	01/20/22 16:32	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17483	01/21/22 14:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17333	01/20/22 12:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17443	01/21/22 14:13	AJ	XEN MID
Soluble	Leach	DI Leach			17449	01/21/22 11:06	CH	XEN MID
Soluble	Analysis	300.0		20	17490	01/21/22 17:08	CH	XEN MID

Client Sample ID: PH16A

Lab Sample ID: 890-1849-2

Date Collected: 01/14/22 14:50

Matrix: Solid

Date Received: 01/19/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17169	01/21/22 13:48	KL	XEN MID
Total/NA	Analysis	8021B		1	17429	01/21/22 14:59	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17403	01/20/22 16:32	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17483	01/21/22 14:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17333	01/20/22 12:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17443	01/21/22 14:34	AJ	XEN MID
Soluble	Leach	DI Leach			17449	01/21/22 11:06	CH	XEN MID
Soluble	Analysis	300.0		10	17490	01/21/22 17:15	CH	XEN MID

Client Sample ID: PH16B

Lab Sample ID: 890-1849-3

Date Collected: 01/14/22 09:30

Matrix: Solid

Date Received: 01/19/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17169	01/21/22 13:48	KL	XEN MID
Total/NA	Analysis	8021B		1	17429	01/21/22 15:20	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17403	01/20/22 16:32	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17483	01/21/22 14:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17333	01/20/22 12:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17443	01/21/22 14:55	AJ	XEN MID
Soluble	Leach	DI Leach			17449	01/21/22 11:06	CH	XEN MID
Soluble	Analysis	300.0		10	17490	01/21/22 17:38	CH	XEN MID

Client Sample ID: PH16C

Lab Sample ID: 890-1849-4

Date Collected: 01/14/22 10:00

Matrix: Solid

Date Received: 01/19/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17169	01/21/22 13:48	KL	XEN MID
Total/NA	Analysis	8021B		1	17429	01/21/22 15:40	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17403	01/20/22 16:32	AJ	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH16C

Date Collected: 01/14/22 10:00

Date Received: 01/19/22 16:16

Lab Sample ID: 890-1849-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	17483	01/21/22 14:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17333	01/20/22 12:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17443	01/21/22 15:15	AJ	XEN MID
Soluble	Leach	DI Leach			17449	01/21/22 11:06	CH	XEN MID
Soluble	Analysis	300.0		10	17490	01/21/22 17:45	CH	XEN MID

Client Sample ID: PH16D

Date Collected: 01/14/22 15:00

Date Received: 01/19/22 16:16

Lab Sample ID: 890-1849-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17169	01/21/22 13:48	KL	XEN MID
Total/NA	Analysis	8021B		1	17429	01/21/22 16:00	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17403	01/20/22 16:32	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17483	01/21/22 14:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17333	01/20/22 12:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17443	01/21/22 15:36	AJ	XEN MID
Soluble	Leach	DI Leach			17549	01/24/22 12:06	CH	XEN MID
Soluble	Analysis	300.0		1	17592	01/24/22 16:20	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: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1849-1  
SDG: 31403236.001.0129.35.02

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.

Job ID: 890-1849-1

Project/Site: Remuda Basin State #2

SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1849-1	PH16	Solid	01/14/22 14:20	01/19/22 16:16	4
890-1849-2	PH16A	Solid	01/14/22 14:50	01/19/22 16:16	10
890-1849-3	PH16B	Solid	01/14/22 09:30	01/19/22 16:16	15
890-1849-4	PH16C	Solid	01/14/22 10:00	01/19/22 16:16	16
890-1849-5	PH16D	Solid	01/14/22 15:00	01/19/22 16:16	20



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  
Phoenix, AZ (602-392-7550) Atlanta, GA (770-449-8800) Tampa, FL (813) 291-1111  
Hobbs, NM (505-392-7550)

Work Order No: \_\_\_\_\_


Page 1 of 1

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## Chain of Custody



Project Manager:		Aimee Cole	Bill to: (if different)	Adrian Baker
Company Name:		WSP USA Inc.	Company Name:	XTO Energy
Address:		4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:		Arvada, Colorado 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:	720.384.7365	Email:	conner.shore@wsp.com; tacoma.morrissey@wsp.com	

<b>Work Order Comments</b> Program: UST/ST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input checked="" type="checkbox"/> KRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project: Reporting Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	
--	--

Project Name:	Remnua Basin State #2	Turn Around	ANALYSIS REQUEST	 890-1849 Chain of Custody	<div style="display: flex; justify-content: space-between;"> <div>PA 8015)</div> <div>(EPA 0=8021)</div> <div>de (EPA 300.0)</div> </div>	Work Order Notes		
Project Number:	31403236.001.0129.35.02	Routine <input type="checkbox"/>						
P.O. Number:		Rush: <i>24 hr</i>						
Sampler's Name:	Conner Shore	Due Date:						
<b>SAMPLE RECEIPT</b> <table border="1"> <tr> <td>Temp Blank:</td> <td><input checked="" type="radio"/> Yes</td> <td><input type="radio"/> No</td> <td>Wet Ice:</td> <td><input checked="" type="radio"/> Yes</td> <td><input type="radio"/> No</td> </tr> </table>							Temp Blank:	<input checked="" type="radio"/> Yes
Temp Blank:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Wet Ice:	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Temperature (°C):	<i>18 / 1.6</i>	Thermometer ID						
Received Intact:	<input checked="" type="radio"/> Yes	<input type="radio"/> No						
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:	<i>-0.2</i>			
Sample Custody Seals:	Yes	No	N/A	Total Containers:				
Number of Containers						TAT starts the day received by the lab, if received by 4:30pm		
PA 8015)								
(EPA 0=8021)								
de (EPA 300.0)								
AFE: EW.2022.00063.EXP.0								

[illegible]

**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.

<b>Total 200.7 / 6010</b>		<b>200.8 / 6020:</b>		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 Ti Sn U V Zn	
<i>Circle Method(s) and Metal(s) to be analyzed</i>				TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	
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
		11/9/22 4:16			

Revised Date 05/18/18 Row 2018

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1849-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1849****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: 890-1849-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1849****List Number: 2****Creator: Rodriguez, Leticia****List Source: Eurofins Midland****List Creation: 01/21/22 11:59 AM**

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	



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1854-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02

Client Project/Site: Remuda Basin State #2

For:

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
1/25/2022 1:27:28 PM

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

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

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

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

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

## Glossary

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



**Case Narrative**

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

**Job ID: 890-1854-1****Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-1854-1****Receipt**

The samples were received on 1/20/2022 4:05 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 4.2°C

**GC VOA**

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

**GC Semi VOA**

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-17533 and analytical batch 880-17546 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-17533/2-A), (LCSD 880-17533/3-A), (MB 880-17533/1-A) and (890-1853-A-1-B). Evidence of matrix interferences is not obvious.

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

**HPLC/IC**

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

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: FS01

Lab Sample ID: 890-1854-1

Date Collected: 01/20/22 14:05

Matrix: Solid

Date Received: 01/20/22 16:05

Sample Depth: 6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/24/22 07:35	01/24/22 14:54	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/24/22 07:35	01/24/22 14:54	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/24/22 07:35	01/24/22 14:54	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/24/22 07:35	01/24/22 14:54	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/24/22 07:35	01/24/22 14:54	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/24/22 07:35	01/24/22 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	01/24/22 07:35	01/24/22 14:54	1
1,4-Difluorobenzene (Surr)	94		70 - 130	01/24/22 07:35	01/24/22 14:54	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			01/24/22 16:52	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			01/24/22 16:26	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		01/24/22 09:27	01/24/22 20:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/24/22 09:27	01/24/22 20:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/24/22 09:27	01/24/22 20:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	01/24/22 09:27	01/24/22 20:42	1
o-Terphenyl	120		70 - 130	01/24/22 09:27	01/24/22 20:42	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97.7		4.99	mg/Kg			01/24/22 15:50	1

Client Sample ID: SW01

Lab Sample ID: 890-1854-2

Date Collected: 01/20/22 14:10

Matrix: Solid

Date Received: 01/20/22 16:05

Sample Depth: 0 - 6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/24/22 07:35	01/24/22 15:14	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/24/22 07:35	01/24/22 15:14	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/24/22 07:35	01/24/22 15:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/24/22 07:35	01/24/22 15:14	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/24/22 07:35	01/24/22 15:14	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/24/22 07:35	01/24/22 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	01/24/22 07:35	01/24/22 15:14	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW01

Lab Sample ID: 890-1854-2

Date Collected: 01/20/22 14:10

Matrix: Solid

Date Received: 01/20/22 16:05

Sample Depth: 0 - 6

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	81		70 - 130	01/24/22 07:35	01/24/22 15:14	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			01/24/22 16:52	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			01/24/22 16:26	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		01/24/22 09:27	01/24/22 21:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/24/22 09:27	01/24/22 21:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/24/22 09:27	01/24/22 21:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130			01/24/22 09:27	01/24/22 21:04	1
o-Terphenyl	118		70 - 130			01/24/22 09:27	01/24/22 21:04	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	317		4.98	mg/Kg			01/24/22 15:58	1

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1841-A-1-F MS	Matrix Spike	116	103
890-1841-A-1-G MSD	Matrix Spike Duplicate	112	95
890-1854-1	FS01	124	94
890-1854-2	SW01	108	81
LCS 880-17525/1-A	Lab Control Sample	122	107
LCSD 880-17525/2-A	Lab Control Sample Dup	123	108
MB 880-17525/5-A	Method Blank	116	98
<b>Surrogate Legend</b>			
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)
890-1853-A-1-C MS	Matrix Spike	105	111
890-1853-A-1-D MSD	Matrix Spike Duplicate	103	109
890-1854-1	FS01	104	120
890-1854-2	SW01	101	118
LCS 880-17533/2-A	Lab Control Sample	130	145 S1+
LCSD 880-17533/3-A	Lab Control Sample Dup	121	137 S1+
MB 880-17533/1-A	Method Blank	115	145 S1+
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-17525/5-A

Matrix: Solid

Analysis Batch: 17527

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17525

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/24/22 07:35	01/24/22 14:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/24/22 07:35	01/24/22 14:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/24/22 07:35	01/24/22 14:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/24/22 07:35	01/24/22 14:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/24/22 07:35	01/24/22 14:04	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/24/22 07:35	01/24/22 14:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	01/24/22 07:35	01/24/22 14:04	1
1,4-Difluorobenzene (Surr)	98		70 - 130	01/24/22 07:35	01/24/22 14:04	1

Lab Sample ID: LCS 880-17525/1-A

Matrix: Solid

Analysis Batch: 17527

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09114		mg/Kg		91	70 - 130
Toluene	0.100	0.09665		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.1011		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	0.200	0.1998		mg/Kg		100	70 - 130
o-Xylene	0.100	0.09689		mg/Kg		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-17525/2-A

Matrix: Solid

Analysis Batch: 17527

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17525

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09034		mg/Kg		90	70 - 130	1	35
Toluene	0.100	0.09847		mg/Kg		98	70 - 130	2	35
Ethylbenzene	0.100	0.1028		mg/Kg		103	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.2036		mg/Kg		102	70 - 130	2	35
o-Xylene	0.100	0.1036		mg/Kg		104	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	123		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-1841-A-1-F MS

Matrix: Solid

Analysis Batch: 17527

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 17525

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00202	U	0.0996	0.08887		mg/Kg		88	70 - 130
Toluene	<0.00202	U	0.0996	0.09492		mg/Kg		94	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 890-1841-A-1-F MS

Matrix: Solid

Analysis Batch: 17527

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 17525

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00202	U	0.0996	0.09305		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	<0.00404	U	0.199	0.1836		mg/Kg		92	70 - 130
o-Xylene	<0.00202	U	0.0996	0.09100		mg/Kg		90	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	116		70 - 130						
1,4-Difluorobenzene (Surr)	103		70 - 130						

Lab Sample ID: 890-1841-A-1-G MSD

Matrix: Solid

Analysis Batch: 17527

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 17525

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.100	0.08652		mg/Kg		86	70 - 130	3	35
Toluene	<0.00202	U	0.100	0.09056		mg/Kg		89	70 - 130	5	35
Ethylbenzene	<0.00202	U	0.100	0.09097		mg/Kg		91	70 - 130	2	35
m-Xylene & p-Xylene	<0.00404	U	0.200	0.1826		mg/Kg		91	70 - 130	1	35
o-Xylene	<0.00202	U	0.100	0.08935		mg/Kg		88	70 - 130	2	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	112		70 - 130								
1,4-Difluorobenzene (Surr)	95		70 - 130								

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

Lab Sample ID: MB 880-17533/1-A

Matrix: Solid

Analysis Batch: 17546

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17533

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		01/24/22 09:27	01/25/22 08:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/24/22 09:27	01/25/22 08:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/24/22 09:27	01/25/22 08:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac		
1-Chlorooctane	115		70 - 130	01/24/22 09:27	01/25/22 08:27	1		
o-Terphenyl	145	S1+	70 - 130	01/24/22 09:27	01/25/22 08:27	1		

Lab Sample ID: LCS 880-17533/2-A

Matrix: Solid

Analysis Batch: 17546

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17533

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	845.8		mg/Kg		85	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1254		mg/Kg		125	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCS 880-17533/2-A

Matrix: Solid

Analysis Batch: 17546

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17533

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	130		70 - 130
o-Terphenyl	145	S1+	70 - 130

Lab Sample ID: LCSD 880-17533/3-A

Matrix: Solid

Analysis Batch: 17546

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17533

	Spike	LCSD	LCSD				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	1000	803.5		mg/Kg		80	70 - 130	5
Diesel Range Organics (Over C10-C28)	1000	1190		mg/Kg		119	70 - 130	5

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	121		70 - 130
o-Terphenyl	137	S1+	70 - 130

Lab Sample ID: 890-1853-A-1-C MS

Matrix: Solid

Analysis Batch: 17546

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 17533

	Sample	Sample	Spike	MS	MS			%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	997	1510	F1	mg/Kg		150
Diesel Range Organics (Over C10-C28)	<49.9	U F1	997	1771	F1	mg/Kg		173

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: 890-1853-A-1-D MSD

Matrix: Solid

Analysis Batch: 17546

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 17533

	Sample	Sample	Spike	MSD	MSD			%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	1341	F1	mg/Kg		133
Diesel Range Organics (Over C10-C28)	<49.9	U F1	996	1714	F1	mg/Kg		168

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	109		70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-17549/1-A

Matrix: Solid

Analysis Batch: 17592

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			01/24/22 12:41	1

Lab Sample ID: LCS 880-17549/2-A

Matrix: Solid

Analysis Batch: 17592

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	273.2		mg/Kg		109	90 - 110

Lab Sample ID: LCSD 880-17549/3-A

Matrix: Solid

Analysis Batch: 17592

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	273.8		mg/Kg		110	90 - 110	0	20

Lab Sample ID: 880-10477-A-1-B MS

Matrix: Solid

Analysis Batch: 17592

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	32.9		250	300.5		mg/Kg		107	90 - 110

Lab Sample ID: 880-10477-A-1-C MSD

Matrix: Solid

Analysis Batch: 17592

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	32.9		250	299.4		mg/Kg		107	90 - 110	0	20

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 17525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1854-1	FS01	Total/NA	Solid	5035	
890-1854-2	SW01	Total/NA	Solid	5035	
MB 880-17525/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-17525/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-17525/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1841-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
890-1841-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 17527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1854-1	FS01	Total/NA	Solid	8021B	17525
890-1854-2	SW01	Total/NA	Solid	8021B	17525
MB 880-17525/5-A	Method Blank	Total/NA	Solid	8021B	17525
LCS 880-17525/1-A	Lab Control Sample	Total/NA	Solid	8021B	17525
LCSD 880-17525/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	17525
890-1841-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	17525
890-1841-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	17525

## Analysis Batch: 17647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1854-1	FS01	Total/NA	Solid	Total BTEX	
890-1854-2	SW01	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 17533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1854-1	FS01	Total/NA	Solid	8015NM Prep	
890-1854-2	SW01	Total/NA	Solid	8015NM Prep	
MB 880-17533/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-17533/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-17533/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1853-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1853-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 17546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1854-1	FS01	Total/NA	Solid	8015B NM	17533
890-1854-2	SW01	Total/NA	Solid	8015B NM	17533
MB 880-17533/1-A	Method Blank	Total/NA	Solid	8015B NM	17533
LCS 880-17533/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	17533
LCSD 880-17533/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	17533
890-1853-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	17533
890-1853-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	17533

## Analysis Batch: 17641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1854-1	FS01	Total/NA	Solid	8015 NM	
890-1854-2	SW01	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

## HPLC/IC

## Leach Batch: 17549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1854-1	FS01	Soluble	Solid	DI Leach	
890-1854-2	SW01	Soluble	Solid	DI Leach	
MB 880-17549/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-17549/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-17549/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-10477-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-10477-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 17592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1854-1	FS01	Soluble	Solid	300.0	17549
890-1854-2	SW01	Soluble	Solid	300.0	17549
MB 880-17549/1-A	Method Blank	Soluble	Solid	300.0	17549
LCS 880-17549/2-A	Lab Control Sample	Soluble	Solid	300.0	17549
LCSD 880-17549/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	17549
880-10477-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	17549
880-10477-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	17549

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: FS01

Lab Sample ID: 890-1854-1

Date Collected: 01/20/22 14:05

Matrix: Solid

Date Received: 01/20/22 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17525	01/24/22 07:35	KL	XEN MID
Total/NA	Analysis	8021B		1	17527	01/24/22 14:54	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	17647	01/24/22 16:52	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17641	01/24/22 16:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17533	01/24/22 09:27	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17546	01/24/22 20:42	AJ	XEN MID
Soluble	Leach	DI Leach			17549	01/24/22 10:00	CH	XEN MID
Soluble	Analysis	300.0		1	17592	01/24/22 15:50	CH	XEN MID

Client Sample ID: SW01

Lab Sample ID: 890-1854-2

Date Collected: 01/20/22 14:10

Matrix: Solid

Date Received: 01/20/22 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17525	01/24/22 07:35	KL	XEN MID
Total/NA	Analysis	8021B		1	17527	01/24/22 15:14	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	17647	01/24/22 16:52	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17641	01/24/22 16:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17533	01/24/22 09:27	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17546	01/24/22 21:04	AJ	XEN MID
Soluble	Leach	DI Leach			17549	01/24/22 10:00	CH	XEN MID
Soluble	Analysis	300.0		1	17592	01/24/22 15:58	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: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

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: Remuda Basin State #2

Job ID: 890-1854-1  
SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1854-1	FS01	Solid	01/20/22 14:05	01/20/22 16:05	6
890-1854-2	SW01	Solid	01/20/22 14:10	01/20/22 16:05	0 - 6

- 1
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- 14





## Chain of Custody

**Work Order No:**

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0350 San Antonio, TX (210) 509-3334  
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 233-3927  
Hobbs, NM (505-392-7550)

Page 1 of 1  
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Project Manager:	Aimee Cole	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:	Avada, Colorado 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:	720.384.7365	Email:	corner.shore@wsp.com, Aimee.cole@wsp.com

Work Order Comments			
<b>Program:</b> UST/ST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input checked="" type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>			
<b>State of Project:</b>			
Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>			
Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: <input type="checkbox"/>			

[illegible]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenoco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenoco 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 Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$3 for each sample submitted to Xenoco, but not analyzed. These terms will be enforced unless previously negotiated. of Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$3 for each sample submitted to Xenoco, but not analyzed. These terms will be enforced unless previously negotiated.

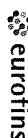
<b>Total 200.7 / 6010    200.8 / 6020:</b>												
<b>Circle Method(s) and Metal(s) to be analyzed</b>												
8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U												
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				1-20-20 11:05								
3				4								
5				6								

Revised Date 05/14/18 Rev 20

## Eurofins Carlsbad

1089 N Canal St  
Carlsbad NM 88220  
Phone. 575-988-3199 Fax. 575-988-3199

## Chain of Custody Record



## Environment Testing America

[illegible]

## Eurofins Carlsbad

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

## Chain of Custody Record



**Environment Testing  
America**

[illegible]

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1854-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1854

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: 890-1854-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1854

List Number: 2

Creator: Lowe, Katie

List Source: Eurofins Midland

List Creation: 01/24/22 08:30 AM

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





## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1866-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02

Client Project/Site: Remuda Basin State #2

**For:**

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
1/28/2022 1:28:40 PM

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

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

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

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

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

## Glossary

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

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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**Job ID: 890-1866-1**

---

**Laboratory: Eurofins Carlsbad**

---

**Narrative**

---

**Job Narrative**  
**890-1866-1**

**Receipt**

The samples were received on 1/24/2022 4:09 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C

**GC VOA**

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

**GC Semi VOA**

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-17749/2-A), (LCSD 880-17749/3-A) and (890-1863-A-1-E MS). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (MB 880-17880/1-A) and (890-1866-A-1-J 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: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH06J

Lab Sample ID: 890-1866-1

Date Collected: 01/24/22 13:00

Matrix: Solid

Date Received: 01/24/22 16:09

Sample Depth: 11

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		01/26/22 07:25	01/26/22 12:00	1
Toluene	<0.00201	U	0.00201	mg/Kg		01/26/22 07:25	01/26/22 12:00	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		01/26/22 07:25	01/26/22 12:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		01/26/22 07:25	01/26/22 12:00	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		01/26/22 07:25	01/26/22 12:00	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		01/26/22 07:25	01/26/22 12:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	01/26/22 07:25	01/26/22 12:00	1
1,4-Difluorobenzene (Surr)	103		70 - 130	01/26/22 07:25	01/26/22 12:00	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			01/28/22 14:15	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			01/26/22 16:48	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		01/26/22 08:19	01/26/22 13:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/26/22 08:19	01/26/22 13:24	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/26/22 08:19	01/26/22 13:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	01/26/22 08:19	01/26/22 13:24	1
o-Terphenyl	92		70 - 130	01/26/22 08:19	01/26/22 13:24	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	225		4.95	mg/Kg			01/27/22 13:24	1

Client Sample ID: SW04

Lab Sample ID: 890-1866-2

Date Collected: 01/24/22 13:10

Matrix: Solid

Date Received: 01/24/22 16:09

Sample Depth: 0 - 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		01/26/22 07:25	01/26/22 12:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/26/22 07:25	01/26/22 12:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/26/22 07:25	01/26/22 12:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/26/22 07:25	01/26/22 12:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/26/22 07:25	01/26/22 12:21	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/26/22 07:25	01/26/22 12:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	01/26/22 07:25	01/26/22 12:21	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW04

Lab Sample ID: 890-1866-2

Date Collected: 01/24/22 13:10

Matrix: Solid

Date Received: 01/24/22 16:09

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	103		70 - 130	01/26/22 07:25	01/26/22 12:21	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			01/28/22 14:15	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			01/26/22 16:48	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		01/26/22 08:19	01/26/22 13:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/26/22 08:19	01/26/22 13:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/26/22 08:19	01/26/22 13:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			01/26/22 08:19	01/26/22 13:46	1
o-Terphenyl	87		70 - 130			01/26/22 08:19	01/26/22 13:46	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51.0		5.00	mg/Kg			01/26/22 19:52	1

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1866-1	PH06J	126	103
890-1866-1 MS	PH06J	108	108
890-1866-1 MSD	PH06J	103	97
890-1866-2	SW04	117	103
LCS 880-17744/1-A	Lab Control Sample	95	89
LCSD 880-17744/2-A	Lab Control Sample Dup	101	104
MB 880-17744/5-A	Method Blank	109	103
<b>Surrogate Legend</b>			
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)
890-1863-A-1-E MS	Matrix Spike	73	69 S1-
890-1863-A-1-F MSD	Matrix Spike Duplicate	77	73
890-1866-1	PH06J	86	92
890-1866-1 MS	PH06J	70	73
890-1866-1 MSD	PH06J	74	65 S1-
890-1866-2	SW04	83	87
LCS 880-17749/2-A	Lab Control Sample	131 S1+	125
LCSD 880-17749/3-A	Lab Control Sample Dup	137 S1+	140 S1+
MB 880-17749/1-A	Method Blank	106	119
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## 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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-17880/2-A	Lab Control Sample	99	109
LCSD 880-17880/3-A	Lab Control Sample Dup	93	94
MB 880-17880/1-A	Method Blank	159 S1+	168 S1+
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-17744/5-A

Matrix: Solid

Analysis Batch: 17745

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17744

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/26/22 07:25	01/26/22 10:46	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/26/22 07:25	01/26/22 10:46	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/26/22 07:25	01/26/22 10:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/26/22 07:25	01/26/22 10:46	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/26/22 07:25	01/26/22 10:46	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/26/22 07:25	01/26/22 10:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	01/26/22 07:25	01/26/22 10:46	1
1,4-Difluorobenzene (Surr)	103		70 - 130	01/26/22 07:25	01/26/22 10:46	1

Lab Sample ID: LCS 880-17744/1-A

Matrix: Solid

Analysis Batch: 17745

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08925		mg/Kg		89	70 - 130
Toluene	0.100	0.08410		mg/Kg		84	70 - 130
Ethylbenzene	0.100	0.08085		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	0.200	0.1687		mg/Kg		84	70 - 130
o-Xylene	0.100	0.08470		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: LCSD 880-17744/2-A

Matrix: Solid

Analysis Batch: 17745

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17744

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09191		mg/Kg		92	70 - 130	3	35
Toluene	0.100	0.08406		mg/Kg		84	70 - 130	0	35
Ethylbenzene	0.100	0.08261		mg/Kg		83	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1708		mg/Kg		85	70 - 130	1	35
o-Xylene	0.100	0.08371		mg/Kg		84	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-1866-1 MS

Matrix: Solid

Analysis Batch: 17745

Client Sample ID: PH06J

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 890-1866-1 MS

Matrix: Solid

Analysis Batch: 17745

Client Sample ID: PH06J

Prep Type: Total/NA

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-1866-1 MSD

Matrix: Solid

Analysis Batch: 17745

Client Sample ID: PH06J

Prep Type: Total/NA

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

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

Lab Sample ID: MB 880-17749/1-A

Matrix: Solid

Analysis Batch: 17755

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17749

	MB	MB							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		01/26/22 08:19	01/26/22 11:10	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/26/22 08:19	01/26/22 11:10	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/26/22 08:19	01/26/22 11:10	1	
	MB	MB							
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	106		70 - 130			01/26/22 08:19	01/26/22 11:10	1	
o-Terphenyl	119		70 - 130			01/26/22 08:19	01/26/22 11:10	1	

Lab Sample ID: LCS 880-17749/2-A

Matrix: Solid

Analysis Batch: 17755

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17749

	Spike	LCS	LCS					%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	1093		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	1153		mg/Kg		115	70 - 130		
	LCS	LCS							
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	131	S1+	70 - 130						
o-Terphenyl	125		70 - 130						

Lab Sample ID: LCSD 880-17749/3-A

Matrix: Solid

Analysis Batch: 17755

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17749

	Spike	LCSD	LCSD					%Rec.	RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1100		mg/Kg		110	70 - 130	1	20

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCSD 880-17749/3-A

Matrix: Solid

Analysis Batch: 17755

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17749

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Diesel Range Organics (Over C10-C28)	1000	1225		mg/Kg		122	70 - 130	6	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	137	S1+	70 - 130						
o-Terphenyl	140	S1+	70 - 130						

Lab Sample ID: 890-1863-A-1-E MS

Matrix: Solid

Analysis Batch: 17755

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 17749

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1106		mg/Kg		111	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	964.5		mg/Kg		95	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	73		70 - 130								
o-Terphenyl	69	S1-	70 - 130								

Lab Sample ID: 890-1863-A-1-F MSD

Matrix: Solid

Analysis Batch: 17755

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 17749

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	1144		mg/Kg		115	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	1028		mg/Kg		101	70 - 130	6	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	77		70 - 130								
o-Terphenyl	73		70 - 130								

Lab Sample ID: MB 880-17880/1-A

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17880

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		01/27/22 09:51	01/27/22 11:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/27/22 09:51	01/27/22 11:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/27/22 09:51	01/27/22 11:24	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac		
1-Chlorooctane	159	S1+	70 - 130	01/27/22 09:51	01/27/22 11:24	1		
o-Terphenyl	168	S1+	70 - 130	01/27/22 09:51	01/27/22 11:24	1		

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCS 880-17880/2-A

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17880

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Gasoline Range Organics (GRO)-C6-C10	1000	896.1		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1044		mg/Kg		104	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	99		70 - 130				
o-Terphenyl	109		70 - 130				

Lab Sample ID: LCSD 880-17880/3-A

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17880

			Spike	LCSD	LCSD				%Rec.	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	894.5		mg/Kg		89	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	992.6		mg/Kg		99	70 - 130	5	20
			LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	93		70 - 130								
o-Terphenyl	94		70 - 130								

Lab Sample ID: 890-1866-1 MS

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: PH06J

Prep Type: Total/NA

Prep Batch: 17880

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1202		mg/Kg		121	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1078		mg/Kg		108	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	70		70 - 130								
o-Terphenyl	73		70 - 130								

Lab Sample ID: 890-1866-1 MSD

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: PH06J

Prep Type: Total/NA

Prep Batch: 17880

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	1170		mg/Kg		117	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	1078		mg/Kg		108	70 - 130	0	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	74		70 - 130								

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 890-1866-1 MSD

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: PH06J

Prep Type: Total/NA

Prep Batch: 17880

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	65	S1-	70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-17757/1-A

Matrix: Solid

Analysis Batch: 17853

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil	Fac
Chloride	<5.00	U	5.00	mg/Kg			01/26/22 18:06		1

Lab Sample ID: LCS 880-17757/2-A

Matrix: Solid

Analysis Batch: 17853

Client Sample ID: Lab Control Sample

Prep Type: Soluble

			Spike	LCS	LCS				%Rec.	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride			250	273.4		mg/Kg		109	90 - 110	

Lab Sample ID: LCSD 880-17757/3-A

Matrix: Solid

Analysis Batch: 17853

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride			250	273.4		mg/Kg		109	90 - 110	0	20

Lab Sample ID: 890-1868-A-3-B MS

Matrix: Solid

Analysis Batch: 17853

Client Sample ID: Matrix Spike

Prep Type: Soluble

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	937		251	1203		mg/Kg		106	90 - 110		

Lab Sample ID: 890-1868-A-3-C MSD

Matrix: Solid

Analysis Batch: 17853

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	937		251	1190		mg/Kg		101	90 - 110	1	20

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 17744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1866-1	PH06J	Total/NA	Solid	5035	
890-1866-2	SW04	Total/NA	Solid	5035	
MB 880-17744/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-17744/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-17744/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

## Analysis Batch: 17745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1866-1	PH06J	Total/NA	Solid	8021B	17744
890-1866-2	SW04	Total/NA	Solid	8021B	17744
MB 880-17744/5-A	Method Blank	Total/NA	Solid	8021B	17744
LCS 880-17744/1-A	Lab Control Sample	Total/NA	Solid	8021B	17744
LCSD 880-17744/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	17744
890-1866-1 MS	PH06J	Total/NA	Solid	8021B	
890-1866-1 MSD	PH06J	Total/NA	Solid	8021B	

## Analysis Batch: 18058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1866-1	PH06J	Total/NA	Solid	Total BTEX	
890-1866-2	SW04	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 17749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1866-1	PH06J	Total/NA	Solid	8015NM Prep	
890-1866-2	SW04	Total/NA	Solid	8015NM Prep	
MB 880-17749/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-17749/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-17749/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1863-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1863-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 17755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1866-1	PH06J	Total/NA	Solid	8015B NM	17749
890-1866-2	SW04	Total/NA	Solid	8015B NM	17749
MB 880-17749/1-A	Method Blank	Total/NA	Solid	8015B NM	17749
LCS 880-17749/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	17749
LCSD 880-17749/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	17749
890-1863-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	17749
890-1863-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	17749

## Analysis Batch: 17829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1866-1	PH06J	Total/NA	Solid	8015 NM	
890-1866-2	SW04	Total/NA	Solid	8015 NM	

## Prep Batch: 17880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-17880/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

## GC Semi VOA (Continued)

## Prep Batch: 17880 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-17880/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-17880/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1866-1 MS	PH06J	Total/NA	Solid	8015NM Prep	
890-1866-1 MSD	PH06J	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 17882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-17880/1-A	Method Blank	Total/NA	Solid	8015B NM	17880
LCS 880-17880/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	17880
LCSD 880-17880/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	17880
890-1866-1 MS	PH06J	Total/NA	Solid	8015B NM	17880
890-1866-1 MSD	PH06J	Total/NA	Solid	8015B NM	17880

## HPLC/IC

## Leach Batch: 17757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1866-1	PH06J	Soluble	Solid	DI Leach	
890-1866-2	SW04	Soluble	Solid	DI Leach	
MB 880-17757/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-17757/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-17757/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1868-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1868-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 17853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1866-1	PH06J	Soluble	Solid	300.0	17757
890-1866-2	SW04	Soluble	Solid	300.0	17757
MB 880-17757/1-A	Method Blank	Soluble	Solid	300.0	17757
LCS 880-17757/2-A	Lab Control Sample	Soluble	Solid	300.0	17757
LCSD 880-17757/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	17757
890-1868-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	17757
890-1868-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	17757

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH06J

Lab Sample ID: 890-1866-1

Date Collected: 01/24/22 13:00

Matrix: Solid

Date Received: 01/24/22 16:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17744	01/26/22 07:25	KL	XEN MID
Total/NA	Analysis	8021B		1	17745	01/26/22 12:00	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	18058	01/28/22 14:15	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17829	01/26/22 16:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17749	01/26/22 08:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17755	01/26/22 13:24	AJ	XEN MID
Soluble	Leach	DI Leach			17757	01/26/22 09:42	CH	XEN MID
Soluble	Analysis	300.0		1	17853	01/27/22 13:24	CH	XEN MID

Client Sample ID: SW04

Lab Sample ID: 890-1866-2

Date Collected: 01/24/22 13:10

Matrix: Solid

Date Received: 01/24/22 16:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17744	01/26/22 07:25	KL	XEN MID
Total/NA	Analysis	8021B		1	17745	01/26/22 12:21	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	18058	01/28/22 14:15	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17829	01/26/22 16:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17749	01/26/22 08:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17755	01/26/22 13:46	AJ	XEN MID
Soluble	Leach	DI Leach			17757	01/26/22 09:42	CH	XEN MID
Soluble	Analysis	300.0		1	17853	01/26/22 19:52	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: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

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: Remuda Basin State #2

Job ID: 890-1866-1  
SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1866-1	PH06J	Solid	01/24/22 13:00	01/24/22 16:09	11
890-1866-2	SW04	Solid	01/24/22 13:10	01/24/22 16:09	0 - 4

- 1
- 2
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- 13
- 14



## 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 (575-382-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 291-1111

**Work Order No:**

Page 1 of 1  
www.xenco.com

Project Manager:		Aimee Cole		Bill to: (if different)		Adrian Baker	
Company Name:		WSP USA Inc.		Company Name:		XTO Energy	
Address:		4600 West 60th Avenue		Address:		3104 E Green Street	
City, State ZIP:		Arvada, Colorado 80003		City, State ZIP:		Carlsbad, NM 88220	
Phone:		720.384.7365		Email:		conner.shore@wsp.com; Aimee.cole@wsp.com	

Work Order Comments									
Program: UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Rowfields <input type="checkbox"/> C <input type="checkbox"/> Pertund <input type="checkbox"/>									
State of Project:									
Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> S/UST <input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/>									
Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: <input type="checkbox"/>									

<b>Project Name:</b>	Remuda Basin State #2	<b>Turn Around</b>	
<b>Project Number:</b>	31403236.001.0129.35.02	<b>Routine</b>	<input type="checkbox"/>
<b>P.O. Number:</b>		<b>Rush: 24 Hr TAT</b>	
<b>Sampler's Name:</b>	Conner Shore	<b>Due Date:</b>	


  

<b>SAMPLE RECEIPT</b>			
<b>Temperature (°C):</b>	Temp Blank: <u>16 / 1.4</u>	(Yes) No	Wet Ice: Yes No
<b>Received Intact:</b>	(Yes) No	Thermometer ID	
<b>Cooler Custody Seals:</b>	Yes No	N/A	Correction Factor:
<b>Sample Custody Seals:</b>	Yes No	N/A	Total Containers:

<b>Number of Containers</b>							
(EPA 8015)							
(EPA 0=8021)							
(EPA 300.0)							

<b>ANALYSIS REQUEST</b>							<b>Work Order Notes</b>
							AFE: EW-2022-00063.EXP.0  TAT starts the day received by the lab, if received by 4:30pm
							
890-1866 Chain of Custody							

[illegible]

Total	200.7 / 6010	200.8 / 6020:
Circle Method(s) and Metal(s) to be analyzed	8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr Ti Sn U V Zn	TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
		1631 / 245.1 / 7470 / 7471 : Hg

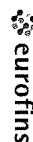
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xencio, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencio will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xencio. A minimum charge of \$75.00 will be applied to each project and a charge of \$3 for each sample submitted to Xencio, 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
		11/24/22 4:09	2		
			4		
			6		

Eurofins Carlsbad

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

## Chain of Custody Record



**Environment Testing  
America**

[illegible]

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1866-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1866

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: 890-1866-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1866

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 01/26/22 11:25 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	





## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1871-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02

Client Project/Site: Remuda Basin State #2

**For:**

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
1/28/2022 12:27:24 PM

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

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

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



Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

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

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

**Job ID: 890-1871-1****Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-1871-1****Receipt**

The samples were received on 1/25/2022 4:05 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C

**GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-17863, 880-17863 and 880-17886 and analytical batch 880-17867 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS02 (890-1871-1), SW02 (890-1871-2), (LCSD 880-17886/2-A), (880-10599-A-4-B MS), (880-10599-A-4-C MSD) and (880-10654-A-21-B 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.

**GC Semi VOA**

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (MB 880-17880/1-A) and (890-1866-A-1-J 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: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: FS02

## Lab Sample ID: 890-1871-1

Date Collected: 01/25/22 13:55

Matrix: Solid

Date Received: 01/25/22 16:05

Sample Depth: 6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		01/27/22 08:03	01/27/22 13:03	1
Toluene	<0.00202	U	0.00202	mg/Kg		01/27/22 08:03	01/27/22 13:03	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		01/27/22 08:03	01/27/22 13:03	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		01/27/22 08:03	01/27/22 13:03	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		01/27/22 08:03	01/27/22 13:03	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		01/27/22 08:03	01/27/22 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	139	S1+	70 - 130	01/27/22 08:03	01/27/22 13:03	1
1,4-Difluorobenzene (Surr)	91		70 - 130	01/27/22 08:03	01/27/22 13:03	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			01/27/22 20:27	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			01/27/22 16:10	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		01/27/22 09:51	01/27/22 13:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/27/22 09:51	01/27/22 13:31	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/27/22 09:51	01/27/22 13:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130	01/27/22 09:51	01/27/22 13:31	1
o-Terphenyl	117		70 - 130	01/27/22 09:51	01/27/22 13:31	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	179		4.98	mg/Kg			01/28/22 01:39	1

## Client Sample ID: SW02

## Lab Sample ID: 890-1871-2

Date Collected: 01/25/22 14:00

Matrix: Solid

Date Received: 01/25/22 16:05

Sample Depth: 0 - 6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 13:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 13:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 13:23	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/27/22 08:03	01/27/22 13:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 13:23	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/27/22 08:03	01/27/22 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	01/27/22 08:03	01/27/22 13:23	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW02

Lab Sample ID: 890-1871-2

Date Collected: 01/25/22 14:00

Matrix: Solid

Date Received: 01/25/22 16:05

Sample Depth: 0 - 6

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	106		70 - 130	01/27/22 08:03	01/27/22 13:23	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			01/27/22 20:27	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			01/27/22 16:10	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		01/27/22 09:51	01/27/22 13:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/27/22 09:51	01/27/22 13:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/27/22 09:51	01/27/22 13:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130			01/27/22 09:51	01/27/22 13:52	1
o-Terphenyl	119		70 - 130			01/27/22 09:51	01/27/22 13:52	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	268		4.97	mg/Kg			01/28/22 01:46	1

Client Sample ID: SW03

Lab Sample ID: 890-1871-3

Date Collected: 01/25/22 14:05

Matrix: Solid

Date Received: 01/25/22 16:05

Sample Depth: 0 - 6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 13:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 13:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 13:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/27/22 08:03	01/27/22 13:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 13:44	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/27/22 08:03	01/27/22 13:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130	01/27/22 08:03	01/27/22 13:44	1
1,4-Difluorobenzene (Surr)	98		70 - 130	01/27/22 08:03	01/27/22 13:44	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			01/27/22 20:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	60.1		50.0	mg/Kg			01/27/22 16:10	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW03

Lab Sample ID: 890-1871-3

Date Collected: 01/25/22 14:05

Matrix: Solid

Date Received: 01/25/22 16:05

Sample Depth: 0 - 6

## 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		01/27/22 09:51	01/27/22 14:13	1
<b>Diesel Range Organics (Over C10-C28)</b>	<b>60.1</b>		50.0	mg/Kg		01/27/22 09:51	01/27/22 14:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/27/22 09:51	01/27/22 14:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	125		70 - 130			01/27/22 09:51	01/27/22 14:13	1
o-Terphenyl	123		70 - 130			01/27/22 09:51	01/27/22 14:13	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>424</b>		4.95	mg/Kg			01/28/22 01:54	1

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

## 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)
880-10599-A-4-B MS	Matrix Spike	70	57 S1-
880-10599-A-4-C MSD	Matrix Spike Duplicate	162 S1+	91
890-1871-1	FS02	139 S1+	91
890-1871-2	SW02	133 S1+	106
890-1871-3	SW03	129	98
LCS 880-17863/1-A	Lab Control Sample	108	98
LCSD 880-17863/2-A	Lab Control Sample Dup	105	86
MB 880-17863/5-A	Method Blank	104	93
<b>Surrogate Legend</b>			
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)
890-1866-A-1-I MS	Matrix Spike	70	73
890-1866-A-1-J MSD	Matrix Spike Duplicate	74	65 S1-
890-1871-1	FS02	116	117
890-1871-2	SW02	127	119
890-1871-3	SW03	125	123
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## 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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-17880/2-A	Lab Control Sample	99	109
LCSD 880-17880/3-A	Lab Control Sample Dup	93	94
MB 880-17880/1-A	Method Blank	159 S1+	168 S1+
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-17863/5-A

Matrix: Solid

Analysis Batch: 17867

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17863

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 11:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 11:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 11:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/27/22 08:03	01/27/22 11:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/27/22 08:03	01/27/22 11:40	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/27/22 08:03	01/27/22 11:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	01/27/22 08:03	01/27/22 11:40	1
1,4-Difluorobenzene (Surr)	93		70 - 130	01/27/22 08:03	01/27/22 11:40	1

Lab Sample ID: LCS 880-17863/1-A

Matrix: Solid

Analysis Batch: 17867

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17863

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07807		mg/Kg		78	70 - 130
Toluene	0.100	0.07443		mg/Kg		74	70 - 130
Ethylbenzene	0.100	0.07762		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	0.200	0.1650		mg/Kg		83	70 - 130
o-Xylene	0.100	0.08230		mg/Kg		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-17863/2-A

Matrix: Solid

Analysis Batch: 17867

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17863

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.07959		mg/Kg		80	70 - 130	2	35
Toluene	0.100	0.07701		mg/Kg		77	70 - 130	3	35
Ethylbenzene	0.100	0.08359		mg/Kg		84	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.1715		mg/Kg		86	70 - 130	4	35
o-Xylene	0.100	0.08472		mg/Kg		85	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: 880-10599-A-4-B MS

Matrix: Solid

Analysis Batch: 17867

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 17863

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00198	U F1	0.0990	0.01665	F1	mg/Kg		17	70 - 130
Toluene	<0.00198	U F1 F2	0.0990	0.008089	F1	mg/Kg		8	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 880-10599-A-4-B MS

Matrix: Solid

Analysis Batch: 17867

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 17863

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00198	U F1	0.0990	0.01789	F1	mg/Kg		18	70 - 130
m-Xylene & p-Xylene	<0.00397	U F1 F2	0.198	0.02358	F1	mg/Kg		12	70 - 130
o-Xylene	<0.00198	U F1 F2	0.0990	0.04114	F1	mg/Kg		42	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	70		70 - 130						
1,4-Difluorobenzene (Surr)	57	S1-	70 - 130						

Lab Sample ID: 880-10599-A-4-C MSD

Matrix: Solid

Analysis Batch: 17867

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 17863

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00198	U F1	0.0996	0.01314	F1	mg/Kg		13	70 - 130	24	35
Toluene	<0.00198	U F1 F2	0.0996	0.01615	F1 F2	mg/Kg		16	70 - 130	67	35
Ethylbenzene	<0.00198	U F1	0.0996	0.01992	F1	mg/Kg		20	70 - 130	11	35
m-Xylene & p-Xylene	<0.00397	U F1 F2	0.199	0.04936	F1 F2	mg/Kg		25	70 - 130	71	35
o-Xylene	<0.00198	U F1 F2	0.0996	0.02546	F1 F2	mg/Kg		26	70 - 130	47	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	162	S1+	70 - 130								
1,4-Difluorobenzene (Surr)	91		70 - 130								

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

Lab Sample ID: MB 880-17880/1-A

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17880

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		01/27/22 09:51	01/27/22 11:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/27/22 09:51	01/27/22 11:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/27/22 09:51	01/27/22 11:24	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	159	S1+	70 - 130			01/27/22 09:51	01/27/22 11:24	1
o-Terphenyl	168	S1+	70 - 130			01/27/22 09:51	01/27/22 11:24	1

Lab Sample ID: LCS 880-17880/2-A

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17880

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	896.1		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1044		mg/Kg		104	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCS 880-17880/2-A

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17880

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: LCSD 880-17880/3-A

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17880

			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	894.5		mg/Kg		89	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	992.6		mg/Kg		99	70 - 130	5	20
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	93		70 - 130								
o-Terphenyl	94		70 - 130								

Lab Sample ID: 890-1866-A-1-I MS

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 17880

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1202		mg/Kg		121	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1078		mg/Kg		108	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	70		70 - 130								
o-Terphenyl	73		70 - 130								

Lab Sample ID: 890-1866-A-1-J MSD

Matrix: Solid

Analysis Batch: 17882

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 17880

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	1170		mg/Kg		117	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	1078		mg/Kg		108	70 - 130	0	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	74		70 - 130								
o-Terphenyl	65	S1-	70 - 130								

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-17944/1-A

Matrix: Solid

Analysis Batch: 17946

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			01/27/22 14:48	1

Lab Sample ID: LCS 880-17944/2-A

Matrix: Solid

Analysis Batch: 17946

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	273.9		mg/Kg		110	90 - 110

Lab Sample ID: LCSD 880-17944/3-A

Matrix: Solid

Analysis Batch: 17946

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	273.6		mg/Kg		109	90 - 110	0	20

Lab Sample ID: 880-10422-A-20-B MS

Matrix: Solid

Analysis Batch: 17946

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	240		248	506.7		mg/Kg		108	90 - 110

Lab Sample ID: 880-10422-A-20-C MSD

Matrix: Solid

Analysis Batch: 17946

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	240		248	499.0		mg/Kg		105	90 - 110	2	20

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 17863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1871-1	FS02	Total/NA	Solid	5035	
890-1871-2	SW02	Total/NA	Solid	5035	
890-1871-3	SW03	Total/NA	Solid	5035	
MB 880-17863/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-17863/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-17863/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-10599-A-4-B MS	Matrix Spike	Total/NA	Solid	5035	
880-10599-A-4-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 17867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1871-1	FS02	Total/NA	Solid	8021B	17863
890-1871-2	SW02	Total/NA	Solid	8021B	17863
890-1871-3	SW03	Total/NA	Solid	8021B	17863
MB 880-17863/5-A	Method Blank	Total/NA	Solid	8021B	17863
LCS 880-17863/1-A	Lab Control Sample	Total/NA	Solid	8021B	17863
LCSD 880-17863/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	17863
880-10599-A-4-B MS	Matrix Spike	Total/NA	Solid	8021B	17863
880-10599-A-4-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	17863

## Analysis Batch: 17973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1871-1	FS02	Total/NA	Solid	Total BTEX	
890-1871-2	SW02	Total/NA	Solid	Total BTEX	
890-1871-3	SW03	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 17880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1871-1	FS02	Total/NA	Solid	8015NM Prep	
890-1871-2	SW02	Total/NA	Solid	8015NM Prep	
890-1871-3	SW03	Total/NA	Solid	8015NM Prep	
MB 880-17880/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-17880/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-17880/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1866-A-1-I MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1866-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 17882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1871-1	FS02	Total/NA	Solid	8015B NM	17880
890-1871-2	SW02	Total/NA	Solid	8015B NM	17880
890-1871-3	SW03	Total/NA	Solid	8015B NM	17880
MB 880-17880/1-A	Method Blank	Total/NA	Solid	8015B NM	17880
LCS 880-17880/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	17880
LCSD 880-17880/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	17880
890-1866-A-1-I MS	Matrix Spike	Total/NA	Solid	8015B NM	17880
890-1866-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	17880

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

## GC Semi VOA

## Analysis Batch: 17951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1871-1	FS02	Total/NA	Solid	8015 NM	
890-1871-2	SW02	Total/NA	Solid	8015 NM	
890-1871-3	SW03	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 17944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1871-1	FS02	Soluble	Solid	DI Leach	
890-1871-2	SW02	Soluble	Solid	DI Leach	
890-1871-3	SW03	Soluble	Solid	DI Leach	
MB 880-17944/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-17944/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-17944/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-10422-A-20-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-10422-A-20-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 17946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1871-1	FS02	Soluble	Solid	300.0	17944
890-1871-2	SW02	Soluble	Solid	300.0	17944
890-1871-3	SW03	Soluble	Solid	300.0	17944
MB 880-17944/1-A	Method Blank	Soluble	Solid	300.0	17944
LCS 880-17944/2-A	Lab Control Sample	Soluble	Solid	300.0	17944
LCSD 880-17944/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	17944
880-10422-A-20-B MS	Matrix Spike	Soluble	Solid	300.0	17944
880-10422-A-20-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	17944

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: FS02

## Lab Sample ID: 890-1871-1

Date Collected: 01/25/22 13:55

Matrix: Solid

Date Received: 01/25/22 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17863	01/27/22 08:03	KL	XEN MID
Total/NA	Analysis	8021B		1	17867	01/27/22 13:03	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17973	01/27/22 20:27	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17951	01/27/22 16:10	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17880	01/27/22 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17882	01/27/22 13:31	AJ	XEN MID
Soluble	Leach	DI Leach			17944	01/27/22 14:21	CH	XEN MID
Soluble	Analysis	300.0		1	17946	01/28/22 01:39	CH	XEN MID

## Client Sample ID: SW02

## Lab Sample ID: 890-1871-2

Date Collected: 01/25/22 14:00

Matrix: Solid

Date Received: 01/25/22 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17863	01/27/22 08:03	KL	XEN MID
Total/NA	Analysis	8021B		1	17867	01/27/22 13:23	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17973	01/27/22 20:27	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17951	01/27/22 16:10	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17880	01/27/22 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17882	01/27/22 13:52	AJ	XEN MID
Soluble	Leach	DI Leach			17944	01/27/22 14:21	CH	XEN MID
Soluble	Analysis	300.0		1	17946	01/28/22 01:46	CH	XEN MID

## Client Sample ID: SW03

## Lab Sample ID: 890-1871-3

Date Collected: 01/25/22 14:05

Matrix: Solid

Date Received: 01/25/22 16:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			17863	01/27/22 08:03	KL	XEN MID
Total/NA	Analysis	8021B		1	17867	01/27/22 13:44	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	17973	01/27/22 20:27	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	17951	01/27/22 16:10	AJ	XEN MID
Total/NA	Prep	8015NM Prep			17880	01/27/22 09:51	DM	XEN MID
Total/NA	Analysis	8015B NM		1	17882	01/27/22 14:13	AJ	XEN MID
Soluble	Leach	DI Leach			17944	01/27/22 14:21	CH	XEN MID
Soluble	Analysis	300.0		1	17946	01/28/22 01:54	CH	XEN MID

## Laboratory References:

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

Eurofins Carlsbad



Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1871-1  
SDG: 31403236.001.0129.35.02

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.

Job ID: 890-1871-1

Project/Site: Remuda Basin State #2

SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1871-1	FS02	Solid	01/25/22 13:55	01/25/22 16:05	6
890-1871-2	SW02	Solid	01/25/22 14:00	01/25/22 16:05	0 - 6
890-1871-3	SW03	Solid	01/25/22 14:05	01/25/22 16:05	0 - 6



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0350 San Antonio, TX (210) 509-3334  
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296  
Phoenix, AZ (602) 392-7550 Atlanta, GA (770) 449-8800 Tampa, FL (813) 291-1111  
Hobbs, NM (505) 392-7550

Work Order No: \_\_\_\_\_

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## Chain of Custody

Project Manager:		Aimee Cole	Bill to: (if different)	Adrian Baker
Company Name:		WSP USA Inc.	Company Name:	XTO Energy
Address:		4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:		Arvada, Colorado 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:	720.384.7365	Email:	conner.shore@wsp.com, Aimee.cole@wsp.com	

<b>Work Order Comments</b>				
<b>Program:</b> UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Crownfields <input type="checkbox"/> C <input type="checkbox"/> perfund <input type="checkbox"/>				
<b>State of Project:</b>				
<b>Reporting Level:</b> I <input type="checkbox"/> Level III <input type="checkbox"/> STUST <input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/>				
<b>Deliverables:</b> EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:				

<b>Project Name:</b>	Remuda Basin State #2	<b>Turn Around</b>	<b>ANALYSIS REQUEST</b>						<b>Work Order Notes</b>
<b>Project Number:</b>	31403236 001.0129.35.02	Routine <input type="checkbox"/>							AFE: EW.2022.00063.EXP.0
<b>P.O. Number:</b>		Rush: 24 Hr TAT							
<b>Sampler's Name:</b>	Conner Shore	Due Date:							


<b>SAMPLE RECEIPT</b>		Temp Blank:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Temperature (°C):	201.8 Thermometer ID						
Received intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 1-NA-07						
Cooler Custody Seals:	<input type="checkbox"/> Yes <input type="checkbox"/> No		N/A		Correction Factor:		-0.7
Sample Custody Seals:	<input type="checkbox"/> Yes <input type="checkbox"/> No		N/A		Total Containers:		

Number of Containers

PA 8015)

EPA 0=8021)

de (EPA 300.0)





890-1871 Chain of Custody

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

[illegible]

Total 200.7 / 6010		200.8 / 6020:	
Circle Method(s) and Metal(s) to be analyzed			
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 Ti Sn U V Zn
TCLP / SPLP	6010:	8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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
		1/7/2018 4:05 PM			

Download Date: 05/14/18 09:18 PM

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1871-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1871

List Source: Eurofins Carlsbad

List Number: 1

Creator: Olivas, Nathaniel

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: 890-1871-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1871

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/27/22 11:48 AM

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	



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1889-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02

Client Project/Site: Remuda Basin State #2

For:

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
2/1/2022 9:43:45 PM

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

#### LINKS

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

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



Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

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

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

**Job ID: 890-1889-1**

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative  
890-1889-1**

**Receipt**

The samples were received on 1/28/2022 3:49 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 4.2°C

**GC VOA**

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-10734-A-1-B MSD). 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**

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

**HPLC/IC**

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

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH14E

Lab Sample ID: 890-1889-1

Date Collected: 01/28/22 12:30

Matrix: Solid

Date Received: 01/28/22 15:49

Sample Depth: 6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/01/22 07:30	02/01/22 12:19	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/01/22 07:30	02/01/22 12:19	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/01/22 07:30	02/01/22 12:19	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		02/01/22 07:30	02/01/22 12:19	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/01/22 07:30	02/01/22 12:19	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		02/01/22 07:30	02/01/22 12:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	02/01/22 07:30	02/01/22 12:19	1
1,4-Difluorobenzene (Surr)	104		70 - 130	02/01/22 07:30	02/01/22 12:19	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			02/01/22 16:53	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			01/31/22 13:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/22 11:05	02/01/22 12:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/22 11:05	02/01/22 12:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/22 11:05	02/01/22 12:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	02/01/22 11:05	02/01/22 12:56	1
o-Terphenyl	82		70 - 130	02/01/22 11:05	02/01/22 12:56	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	802		49.6	mg/Kg			02/01/22 17:51	10

Client Sample ID: PH14F

Lab Sample ID: 890-1889-2

Date Collected: 01/28/22 13:20

Matrix: Solid

Date Received: 01/28/22 15:49

Sample Depth: 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/01/22 11:00	02/01/22 12:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/01/22 11:00	02/01/22 12:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/01/22 11:00	02/01/22 12:39	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/01/22 11:00	02/01/22 12:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/01/22 11:00	02/01/22 12:39	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/01/22 11:00	02/01/22 12:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	02/01/22 11:00	02/01/22 12:39	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH14F

Lab Sample ID: 890-1889-2

Date Collected: 01/28/22 13:20

Matrix: Solid

Date Received: 01/28/22 15:49

Sample Depth: 7

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	82		70 - 130	02/01/22 11:00	02/01/22 12:39	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			02/01/22 16:53	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			01/31/22 13:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/01/22 11:05	02/01/22 13:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/22 11:05	02/01/22 13:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/22 11:05	02/01/22 13:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	69	S1-	70 - 130			02/01/22 11:05	02/01/22 13:18	1
o-Terphenyl	67	S1-	70 - 130			02/01/22 11:05	02/01/22 13:18	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	412		5.04	mg/Kg			02/01/22 19:45	1

Client Sample ID: SW05

Lab Sample ID: 890-1889-3

Date Collected: 01/27/22 13:15

Matrix: Solid

Date Received: 01/28/22 15:49

Sample Depth: 0 - 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		02/01/22 11:00	02/01/22 13:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/01/22 11:00	02/01/22 13:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/01/22 11:00	02/01/22 13:00	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/01/22 11:00	02/01/22 13:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/01/22 11:00	02/01/22 13:00	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/01/22 11:00	02/01/22 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	02/01/22 11:00	02/01/22 13:00	1
1,4-Difluorobenzene (Surr)	101		70 - 130	02/01/22 11:00	02/01/22 13:00	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			02/01/22 16:53	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			01/31/22 13:14	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW05

Lab Sample ID: 890-1889-3

Date Collected: 01/27/22 13:15

Matrix: Solid

Date Received: 01/28/22 15:49

Sample Depth: 0 - 4

## 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		02/01/22 11:05	02/01/22 13:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/01/22 11:05	02/01/22 13:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/01/22 11:05	02/01/22 13:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	75		70 - 130			02/01/22 11:05	02/01/22 13:39	1
o-Terphenyl	70		70 - 130			02/01/22 11:05	02/01/22 13:39	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	677		4.99	mg/Kg			02/01/22 18:21	1

# Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

## 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)
880-10734-A-1-A MS	Matrix Spike	115	106
880-10734-A-1-B MSD	Matrix Spike Duplicate	152 S1+	113
890-1889-1	PH14E	109	104
890-1889-2	PH14F	113	82
890-1889-3	SW05	113	101
LCS 880-18173/1-A	Lab Control Sample	103	95
LCSD 880-18173/2-A	Lab Control Sample Dup	97	105
MB 880-18173/5-A	Method Blank	100	100
<b>Surrogate Legend</b>			
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)
880-10650-A-1-I MS	Matrix Spike	75	74
880-10650-A-1-J MSD	Matrix Spike Duplicate	74	68 S1-
890-1889-1	PH14E	85	82
890-1889-2	PH14F	69 S1-	67 S1-
890-1889-3	SW05	75	70
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## 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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-18142/2-A	Lab Control Sample	71	67 S1-
LCSD 880-18142/3-A	Lab Control Sample Dup	76	73
MB 880-18142/1-A	Method Blank	88	86
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-18173/5-A

Matrix: Solid

Analysis Batch: 18229

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 18173

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/01/22 07:30	02/01/22 11:16	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/01/22 07:30	02/01/22 11:16	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/01/22 07:30	02/01/22 11:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/01/22 07:30	02/01/22 11:16	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/01/22 07:30	02/01/22 11:16	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/01/22 07:30	02/01/22 11:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	02/01/22 07:30	02/01/22 11:16	1
1,4-Difluorobenzene (Surr)	100		70 - 130	02/01/22 07:30	02/01/22 11:16	1

Lab Sample ID: LCS 880-18173/1-A

Matrix: Solid

Analysis Batch: 18229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18173

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08127		mg/Kg		81	70 - 130
Toluene	0.100	0.07937		mg/Kg		79	70 - 130
Ethylbenzene	0.100	0.07385		mg/Kg		74	70 - 130
m-Xylene & p-Xylene	0.200	0.1487		mg/Kg		74	70 - 130
o-Xylene	0.100	0.07610		mg/Kg		76	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: LCSD 880-18173/2-A

Matrix: Solid

Analysis Batch: 18229

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 18173

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08507		mg/Kg		85	70 - 130	5	35
Toluene	0.100	0.07653		mg/Kg		77	70 - 130	4	35
Ethylbenzene	0.100	0.07328		mg/Kg		73	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1480		mg/Kg		74	70 - 130	0	35
o-Xylene	0.100	0.07261		mg/Kg		73	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 880-10734-A-1-A MS

Matrix: Solid

Analysis Batch: 18229

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18173

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00202	U	0.100	0.07517		mg/Kg		75	70 - 130
Toluene	<0.00202	U	0.100	0.07063		mg/Kg		70	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 880-10734-A-1-A MS

Matrix: Solid

Analysis Batch: 18229

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18173

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00202	U	0.100	0.07058		mg/Kg		71	70 - 130
m-Xylene & p-Xylene	<0.00404	U	0.200	0.1505		mg/Kg		75	70 - 130
o-Xylene	<0.00202	U	0.100	0.07254		mg/Kg		73	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 880-10734-A-1-B MSD

Matrix: Solid

Analysis Batch: 18229

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 18173

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00202	U	0.0998	0.08802		mg/Kg		88	70 - 130	16	35
Toluene	<0.00202	U	0.0998	0.09875		mg/Kg		98	70 - 130	33	35
Ethylbenzene	<0.00202	U	0.0998	0.09415		mg/Kg		94	70 - 130	29	35
m-Xylene & p-Xylene	<0.00404	U	0.200	0.1890		mg/Kg		95	70 - 130	23	35
o-Xylene	<0.00202	U	0.0998	0.1036		mg/Kg		104	70 - 130	35	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	152	S1+	70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

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

Lab Sample ID: MB 880-18142/1-A

Matrix: Solid

Analysis Batch: 18228

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 18142

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		01/31/22 11:05	02/01/22 09:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/31/22 11:05	02/01/22 09:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/31/22 11:05	02/01/22 09:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	01/31/22 11:05	02/01/22 09:44	1
o-Terphenyl	86		70 - 130	01/31/22 11:05	02/01/22 09:44	1

Lab Sample ID: LCS 880-18142/2-A

Matrix: Solid

Analysis Batch: 18228

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18142

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1035		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	1000	834.6		mg/Kg		83	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCS 880-18142/2-A

Matrix: Solid

Analysis Batch: 18228

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18142

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	71		70 - 130
o-Terphenyl	67	S1-	70 - 130

Lab Sample ID: LCSD 880-18142/3-A

Matrix: Solid

Analysis Batch: 18228

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 18142

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1059		mg/Kg		106	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	855.5		mg/Kg		86	70 - 130	2	20
Surrogate	LCSD	LCSD									
	%Recovery	Qualifier									
1-Chlorooctane	76										
o-Terphenyl	73										

Lab Sample ID: 880-10650-A-1-I MS

Matrix: Solid

Analysis Batch: 18228

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18142

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1023		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	929.5		mg/Kg		91	70 - 130		
Surrogate	MS	MS									
	%Recovery	Qualifier									
1-Chlorooctane	75										
o-Terphenyl	74										

Lab Sample ID: 880-10650-A-1-J MSD

Matrix: Solid

Analysis Batch: 18228

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 18142

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	1112		mg/Kg		109	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	852.6		mg/Kg		83	70 - 130	9	20
Surrogate	MSD	MSD									
	%Recovery	Qualifier									
1-Chlorooctane	74										
o-Terphenyl	68	S1-									

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-18269/1-A

Matrix: Solid

Analysis Batch: 18297

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			02/01/22 15:09	1

Lab Sample ID: LCS 880-18269/2-A

Matrix: Solid

Analysis Batch: 18297

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	272.3		mg/Kg		109	90 - 110

Lab Sample ID: LCSD 880-18269/3-A

Matrix: Solid

Analysis Batch: 18297

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	271.6		mg/Kg		109	90 - 110	0	20

Lab Sample ID: 890-1883-A-1-G MS

Matrix: Solid

Analysis Batch: 18297

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	57.4	F1	248	321.4		mg/Kg		107	90 - 110

Lab Sample ID: 890-1883-A-1-H MSD

Matrix: Solid

Analysis Batch: 18297

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	57.4	F1	248	317.0		mg/Kg		105	90 - 110	1	20

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 18173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1889-1	PH14E	Total/NA	Solid	5035	
890-1889-2	PH14F	Total/NA	Solid	5035	
890-1889-3	SW05	Total/NA	Solid	5035	
MB 880-18173/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-18173/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-18173/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-10734-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-10734-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 18229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1889-1	PH14E	Total/NA	Solid	8021B	18173
890-1889-2	PH14F	Total/NA	Solid	8021B	18173
890-1889-3	SW05	Total/NA	Solid	8021B	18173
MB 880-18173/5-A	Method Blank	Total/NA	Solid	8021B	18173
LCS 880-18173/1-A	Lab Control Sample	Total/NA	Solid	8021B	18173
LCSD 880-18173/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	18173
880-10734-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	18173
880-10734-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	18173

## Analysis Batch: 18313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1889-1	PH14E	Total/NA	Solid	Total BTEX	
890-1889-2	PH14F	Total/NA	Solid	Total BTEX	
890-1889-3	SW05	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 18142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1889-1	PH14E	Total/NA	Solid	8015NM Prep	
890-1889-2	PH14F	Total/NA	Solid	8015NM Prep	
890-1889-3	SW05	Total/NA	Solid	8015NM Prep	
MB 880-18142/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-18142/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-18142/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-10650-A-1-I MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-10650-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 18170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1889-1	PH14E	Total/NA	Solid	8015 NM	
890-1889-2	PH14F	Total/NA	Solid	8015 NM	
890-1889-3	SW05	Total/NA	Solid	8015 NM	

## Analysis Batch: 18228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1889-1	PH14E	Total/NA	Solid	8015B NM	18142
890-1889-2	PH14F	Total/NA	Solid	8015B NM	18142
890-1889-3	SW05	Total/NA	Solid	8015B NM	18142
MB 880-18142/1-A	Method Blank	Total/NA	Solid	8015B NM	18142

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

## GC Semi VOA (Continued)

## Analysis Batch: 18228 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-18142/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	18142
LCSD 880-18142/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	18142
880-10650-A-1-I MS	Matrix Spike	Total/NA	Solid	8015B NM	18142
880-10650-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	18142

## HPLC/IC

## Leach Batch: 18269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1889-1	PH14E	Soluble	Solid	DI Leach	
890-1889-2	PH14F	Soluble	Solid	DI Leach	
890-1889-3	SW05	Soluble	Solid	DI Leach	
MB 880-18269/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-18269/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-18269/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1883-A-1-G MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1883-A-1-H MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 18297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1889-1	PH14E	Soluble	Solid	300.0	18269
890-1889-2	PH14F	Soluble	Solid	300.0	18269
890-1889-3	SW05	Soluble	Solid	300.0	18269
MB 880-18269/1-A	Method Blank	Soluble	Solid	300.0	18269
LCS 880-18269/2-A	Lab Control Sample	Soluble	Solid	300.0	18269
LCSD 880-18269/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	18269
890-1883-A-1-G MS	Matrix Spike	Soluble	Solid	300.0	18269
890-1883-A-1-H MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	18269

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH14E

Lab Sample ID: 890-1889-1

Date Collected: 01/28/22 12:30

Matrix: Solid

Date Received: 01/28/22 15:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			18173	02/01/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	18229	02/01/22 12:19	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	18313	02/01/22 16:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	18170	01/31/22 13:14	AJ	XEN MID
Total/NA	Prep	8015NM Prep			18142	02/01/22 11:05	DM	XEN MID
Total/NA	Analysis	8015B NM		1	18228	02/01/22 12:56	AJ	XEN MID
Soluble	Leach	DI Leach			18269	02/01/22 14:25	SC	XEN MID
Soluble	Analysis	300.0		10	18297	02/01/22 17:51	SC	XEN MID

Client Sample ID: PH14F

Lab Sample ID: 890-1889-2

Date Collected: 01/28/22 13:20

Matrix: Solid

Date Received: 01/28/22 15:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			18173	02/01/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	18229	02/01/22 12:39	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	18313	02/01/22 16:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	18170	01/31/22 13:14	AJ	XEN MID
Total/NA	Prep	8015NM Prep			18142	02/01/22 11:05	DM	XEN MID
Total/NA	Analysis	8015B NM		1	18228	02/01/22 13:18	AJ	XEN MID
Soluble	Leach	DI Leach			18269	02/01/22 14:25	SC	XEN MID
Soluble	Analysis	300.0		1	18297	02/01/22 19:45	SC	XEN MID

Client Sample ID: SW05

Lab Sample ID: 890-1889-3

Date Collected: 01/27/22 13:15

Matrix: Solid

Date Received: 01/28/22 15:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			18173	02/01/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	18229	02/01/22 13:00	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	18313	02/01/22 16:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	18170	01/31/22 13:14	AJ	XEN MID
Total/NA	Prep	8015NM Prep			18142	02/01/22 11:05	DM	XEN MID
Total/NA	Analysis	8015B NM		1	18228	02/01/22 13:39	AJ	XEN MID
Soluble	Leach	DI Leach			18269	02/01/22 14:25	SC	XEN MID
Soluble	Analysis	300.0		1	18297	02/01/22 18:21	SC	XEN MID

## Laboratory References:

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

Eurofins Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

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: Remuda Basin State #2

Job ID: 890-1889-1  
SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1889-1	PH14E	Solid	01/28/22 12:30	01/28/22 15:49	6
890-1889-2	PH14F	Solid	01/28/22 13:20	01/28/22 15:49	7
890-1889-3	SW05	Solid	01/27/22 13:15	01/28/22 15:49	0 - 4

- 1
- 2
- 3
- 4
- 5
- 6
- 7
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- 12
- 13
- 14



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) 565-3443 Lubbock, TX (806) 794-1296  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 251-1111  
Hobbs, NM (575-392-7550)

## Chain of Custody

**Work Order No-**

Page 1 of 1



Project Manager:		Aimee Cole	Bill to: (if different)	Adrian Baker
Company Name:		WSP USA Inc.	Company Name:	XTO Energy
Address:		4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:		Anvada, Colorado 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:		720.384.7365	Email:	conner.shore@wsp.com; Aimee.cole@wsp.com

<b>Work Order Comments</b>									
Program: UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Crownfields <input type="checkbox"/> C <input type="checkbox"/> perfund <input type="checkbox"/>									
State of Project:									
Reporting Level I <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/>									
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:									

[illegible]

Circle Method(s) and Metal(s) to be analyzed	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 SiO <sub>2</sub> Na Sr Ti Sn U V Zn		
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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 those 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 \$3 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
		1-28-22 15:49			

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1889-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1889****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: 890-1889-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1889****List Number: 2****Creator: Rodriguez, Leticia****List Source: Eurofins Midland****List Creation: 02/01/22 11:35 AM**

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	



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1916-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02

Client Project/Site: Remuda Basin State #2

For:

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
2/11/2022 7:07:37 PM

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

#### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

## Qualifiers

## GC VOA

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

## GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD 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: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

**Job ID: 890-1916-1****Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-1916-1****Receipt**

The samples were received on 2/7/2022 3:51 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

**GC VOA**

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

**GC Semi VOA**

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-18883 and analytical batch 880-18891 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.

**HPLC/IC**

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

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW05

Lab Sample ID: 890-1916-1

Date Collected: 02/07/22 13:35

Matrix: Solid

Date Received: 02/07/22 15:51

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/09/22 08:00	02/09/22 13:00	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/09/22 08:00	02/09/22 13:00	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/09/22 08:00	02/09/22 13:00	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		02/09/22 08:00	02/09/22 13:00	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/09/22 08:00	02/09/22 13:00	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		02/09/22 08:00	02/09/22 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	02/09/22 08:00	02/09/22 13:00	1
1,4-Difluorobenzene (Surr)	128		70 - 130	02/09/22 08:00	02/09/22 13:00	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			02/09/22 17:04	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			02/08/22 16:56	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		02/09/22 08:38	02/09/22 13:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/09/22 08:38	02/09/22 13:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/09/22 08:38	02/09/22 13:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130	02/09/22 08:38	02/09/22 13:17	1
o-Terphenyl	82		70 - 130	02/09/22 08:38	02/09/22 13:17	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		4.97	mg/Kg			02/10/22 23:48	1

Client Sample ID: SW07

Lab Sample ID: 890-1916-2

Date Collected: 02/07/22 14:30

Matrix: Solid

Date Received: 02/07/22 15:51

Sample Depth: 0 - 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		02/09/22 08:00	02/09/22 13:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/09/22 08:00	02/09/22 13:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/09/22 08:00	02/09/22 13:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/09/22 08:00	02/09/22 13:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/09/22 08:00	02/09/22 13:21	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/09/22 08:00	02/09/22 13:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	02/09/22 08:00	02/09/22 13:21	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW07

Lab Sample ID: 890-1916-2

Date Collected: 02/07/22 14:30

Matrix: Solid

Date Received: 02/07/22 15:51

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	94		70 - 130	02/09/22 08:00	02/09/22 13:21	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			02/09/22 17:04	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			02/08/22 16:56	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		02/09/22 08:38	02/09/22 13:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/09/22 08:38	02/09/22 13:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/09/22 08:38	02/09/22 13:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130			02/09/22 08:38	02/09/22 13:38	1
o-Terphenyl	79		70 - 130			02/09/22 08:38	02/09/22 13:38	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	528		49.5	mg/Kg			02/10/22 23:57	10

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

## 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)
880-10991-A-1-F MS	Matrix Spike	97	94
880-10991-A-1-G MSD	Matrix Spike Duplicate	99	101
890-1916-1	SW05	123	128
890-1916-2	SW07	115	94
LCS 880-18817/1-A	Lab Control Sample	99	108
LCSD 880-18817/2-A	Lab Control Sample Dup	92	104
MB 880-18817/5-A	Method Blank	97	99
<b>Surrogate Legend</b>			
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)
880-11024-A-1-G MS	Matrix Spike	84	86
880-11024-A-1-H MSD	Matrix Spike Duplicate	70	74
890-1916-1	SW05	81	82
890-1916-2	SW07	79	79
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## 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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-18883/2-A	Lab Control Sample	113	114
LCSD 880-18883/3-A	Lab Control Sample Dup	102	108
MB 880-18883/1-A	Method Blank	81	82
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-18817/5-A

Matrix: Solid

Analysis Batch: 18880

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 18817

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/09/22 08:00	02/09/22 10:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/09/22 08:00	02/09/22 10:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/09/22 08:00	02/09/22 10:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/09/22 08:00	02/09/22 10:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/09/22 08:00	02/09/22 10:34	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/09/22 08:00	02/09/22 10:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	02/09/22 08:00	02/09/22 10:34	1
1,4-Difluorobenzene (Surr)	99		70 - 130	02/09/22 08:00	02/09/22 10:34	1

Lab Sample ID: LCS 880-18817/1-A

Matrix: Solid

Analysis Batch: 18880

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09932		mg/Kg		99	70 - 130
Toluene	0.100	0.09427		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.1041		mg/Kg		104	70 - 130
m-Xylene & p-Xylene	0.200	0.1935		mg/Kg		97	70 - 130
o-Xylene	0.100	0.1004		mg/Kg		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: LCSD 880-18817/2-A

Matrix: Solid

Analysis Batch: 18880

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 18817

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09160		mg/Kg		92	70 - 130	8	35
Toluene	0.100	0.08864		mg/Kg		89	70 - 130	6	35
Ethylbenzene	0.100	0.09563		mg/Kg		96	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1828		mg/Kg		91	70 - 130	6	35
o-Xylene	0.100	0.09275		mg/Kg		93	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 880-10991-A-1-F MS

Matrix: Solid

Analysis Batch: 18880

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.101	0.09593		mg/Kg		95	70 - 130
Toluene	<0.00199	U	0.101	0.09474		mg/Kg		94	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 880-10991-A-1-F MS

Matrix: Solid

Analysis Batch: 18880

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U	0.101	0.09881		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1857		mg/Kg		92	70 - 130
o-Xylene	<0.00199	U	0.101	0.09491		mg/Kg		94	70 - 130
Surrogate	MS %Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	97		70 - 130						
1,4-Difluorobenzene (Surr)	94		70 - 130						

Lab Sample ID: 880-10991-A-1-G MSD

Matrix: Solid

Analysis Batch: 18880

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 18817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.08727		mg/Kg		87	70 - 130	9	35
Toluene	<0.00199	U	0.0996	0.08557		mg/Kg		85	70 - 130	10	35
Ethylbenzene	<0.00199	U	0.0996	0.08563		mg/Kg		86	70 - 130	14	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1658		mg/Kg		83	70 - 130	11	35
o-Xylene	<0.00199	U	0.0996	0.08387		mg/Kg		84	70 - 130	12	35
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	99		70 - 130								
1,4-Difluorobenzene (Surr)	101		70 - 130								

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

Lab Sample ID: MB 880-18883/1-A

Matrix: Solid

Analysis Batch: 18891

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 18883

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		02/09/22 08:38	02/09/22 11:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/09/22 08:38	02/09/22 11:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/09/22 08:38	02/09/22 11:13	1
Surrogate	MB %Recovery	MB Qualifier	MB Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130			02/09/22 08:38	02/09/22 11:13	1
o-Terphenyl	82		70 - 130			02/09/22 08:38	02/09/22 11:13	1

Lab Sample ID: LCS 880-18883/2-A

Matrix: Solid

Analysis Batch: 18891

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1150		mg/Kg		115	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1152		mg/Kg		115	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCS 880-18883/2-A

Matrix: Solid

Analysis Batch: 18891

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18883

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: LCSD 880-18883/3-A

Matrix: Solid

Analysis Batch: 18891

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 18883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1099		mg/Kg		110	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	1000	1086		mg/Kg		109	70 - 130	6	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: 880-11024-A-1-G MS

Matrix: Solid

Analysis Batch: 18891

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18883

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1 F2	1000	1889	F1	mg/Kg		185	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	1100		mg/Kg		110	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 880-11024-A-1-H MSD

Matrix: Solid

Analysis Batch: 18891

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 18883

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 F1 F2	998	1078	F2	mg/Kg		104	70 - 130	55	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	934.8		mg/Kg		94	70 - 130	16	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	70		70 - 130
o-Terphenyl	74		70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-19050/1-A

Matrix: Solid

Analysis Batch: 19051

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			02/10/22 22:37	1

Lab Sample ID: LCS 880-19050/2-A

Matrix: Solid

Analysis Batch: 19051

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	259.2		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-19050/3-A

Matrix: Solid

Analysis Batch: 19051

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	259.7		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 880-11062-A-1-B MS

Matrix: Solid

Analysis Batch: 19051

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	8640		2520	11270		mg/Kg		105	90 - 110

Lab Sample ID: 880-11062-A-1-C MSD

Matrix: Solid

Analysis Batch: 19051

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	8640		2520	11260		mg/Kg		104	90 - 110	0	20



## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 18817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1916-1	SW05	Total/NA	Solid	5035	
890-1916-2	SW07	Total/NA	Solid	5035	
MB 880-18817/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-18817/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-18817/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-10991-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
880-10991-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 18880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1916-1	SW05	Total/NA	Solid	8021B	18817
890-1916-2	SW07	Total/NA	Solid	8021B	18817
MB 880-18817/5-A	Method Blank	Total/NA	Solid	8021B	18817
LCS 880-18817/1-A	Lab Control Sample	Total/NA	Solid	8021B	18817
LCSD 880-18817/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	18817
880-10991-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	18817
880-10991-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	18817

## Analysis Batch: 18942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1916-1	SW05	Total/NA	Solid	Total BTEX	
890-1916-2	SW07	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 18870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1916-1	SW05	Total/NA	Solid	8015 NM	
890-1916-2	SW07	Total/NA	Solid	8015 NM	

## Prep Batch: 18883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1916-1	SW05	Total/NA	Solid	8015NM Prep	
890-1916-2	SW07	Total/NA	Solid	8015NM Prep	
MB 880-18883/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-18883/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-18883/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-11024-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-11024-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 18891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1916-1	SW05	Total/NA	Solid	8015B NM	18883
890-1916-2	SW07	Total/NA	Solid	8015B NM	18883
MB 880-18883/1-A	Method Blank	Total/NA	Solid	8015B NM	18883
LCS 880-18883/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	18883
LCSD 880-18883/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	18883
880-11024-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	18883
880-11024-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	18883

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

## HPLC/IC

## Leach Batch: 19050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1916-1	SW05	Soluble	Solid	DI Leach	
890-1916-2	SW07	Soluble	Solid	DI Leach	
MB 880-19050/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19050/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19050/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11062-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11062-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 19051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1916-1	SW05	Soluble	Solid	300.0	19050
890-1916-2	SW07	Soluble	Solid	300.0	19050
MB 880-19050/1-A	Method Blank	Soluble	Solid	300.0	19050
LCS 880-19050/2-A	Lab Control Sample	Soluble	Solid	300.0	19050
LCSD 880-19050/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19050
880-11062-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	19050
880-11062-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	19050

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW05

Lab Sample ID: 890-1916-1

Date Collected: 02/07/22 13:35

Matrix: Solid

Date Received: 02/07/22 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			18817	02/09/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	18880	02/09/22 13:00	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	18942	02/09/22 17:04	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	18870	02/08/22 16:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			18883	02/09/22 08:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1	18891	02/09/22 13:17	AJ	XEN MID
Soluble	Leach	DI Leach			19050	02/10/22 14:03	CH	XEN MID
Soluble	Analysis	300.0		1	19051	02/10/22 23:48	SC	XEN MID

Client Sample ID: SW07

Lab Sample ID: 890-1916-2

Date Collected: 02/07/22 14:30

Matrix: Solid

Date Received: 02/07/22 15:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			18817	02/09/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	18880	02/09/22 13:21	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	18942	02/09/22 17:04	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	18870	02/08/22 16:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			18883	02/09/22 08:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1	18891	02/09/22 13:38	AJ	XEN MID
Soluble	Leach	DI Leach			19050	02/10/22 14:03	CH	XEN MID
Soluble	Analysis	300.0		10	19051	02/10/22 23:57	SC	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: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

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: Remuda Basin State #2

Job ID: 890-1916-1  
SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1916-1	SW05	Solid	02/07/22 13:35	02/07/22 15:51	0 - 4
890-1916-2	SW07	Solid	02/07/22 14:30	02/07/22 15:51	0 - 4

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



## Chain of Custody

**Work Order No:**


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) 794-1295  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 392-7550  
Hobbs, NM (575-392-7550)

Page 1 of 1  
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<b>Project Manager:</b>		Aimee Cole		<b>Bill to: (if different)</b>		Adrian Baker	
<b>Company Name:</b>		WSP USA Inc.		<b>Company Name:</b>		XTO Energy	
<b>Address:</b>		4600 West 60th Avenue		<b>Address:</b>		3104 E Green Street	
<b>City, State ZIP:</b>		Arvada, Colorado 80003		<b>City, State ZIP:</b>		Carlsbad, NM 88220	
<b>Phone:</b>		720.384.7365		<b>Email:</b>		conner.shore@wsp.com; Aimee.cole@wsp.com	



<b>Work Order Comments</b>			
<b>Program:</b> UST/ST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> KRC <input type="checkbox"/> Superfund <input type="checkbox"/>			
<b>State of Project:</b>			
Reporting Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>			
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: <input type="checkbox"/>			

ANALYSIS REQUEST										Work Order Notes																																											
Project Name:		Remuda Basin State #2				Turn Around																																															
Project Number:		31403236.001 0129.35.02				Routine <input type="checkbox"/>																																															
P.O. Number:						Rush: 24 Hr TAT																																															
Sampler's Name:		Conner Shore				Due Date:																																															
<table border="1"> <thead> <tr> <th colspan="2">SAMPLE RECEIPT</th> <th>Temp Blank:</th> <th>Yes</th> <th>No</th> <th>Wet Ice:</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Temperature (°C):</td> <td>3.2 / 3.0</td> <td></td> <td></td> <td></td> <td>Thermometer ID</td> <td></td> <td></td> </tr> <tr> <td>Received intact:</td> <td>Yes</td> <td>No</td> <td></td> <td></td> <td>1-NA-007</td> <td></td> <td></td> </tr> <tr> <td>Cooler Custody Seals:</td> <td>Yes</td> <td>No</td> <td></td> <td></td> <td>N/A</td> <td>Correction Factor:</td> <td>0.2</td> </tr> <tr> <td>Sample Custody Seals:</td> <td>Yes</td> <td>No</td> <td></td> <td></td> <td>N/A</td> <td>Total Containers:</td> <td></td> </tr> </tbody> </table>												SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No	Temperature (°C):	3.2 / 3.0				Thermometer ID			Received intact:	Yes	No			1-NA-007			Cooler Custody Seals:	Yes	No			N/A	Correction Factor:	0.2	Sample Custody Seals:	Yes	No			N/A	Total Containers:			
SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No																																														
Temperature (°C):	3.2 / 3.0				Thermometer ID																																																
Received intact:	Yes	No			1-NA-007																																																
Cooler Custody Seals:	Yes	No			N/A	Correction Factor:	0.2																																														
Sample Custody Seals:	Yes	No			N/A	Total Containers:																																															
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de (EPA 300.0)																																																					
 890-1916 Chain of Custody																																																					
												AFE: EW.2022.00063.EXP.0																																									
TAT starts the day received by the lab, if received by 4:30pm																																																					

[illegible]

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		2/7/22 4:10			

Revised Date 05/14/18 Rev. 2018

## Eurofins Carlsbad

**1089 N Canal St  
Carlsbad NM 88220  
Phone. 575-988-3199 Fax. 575-988-3199**

## Chain of Custody Record



## Environment Testing America

[illegible]



## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1916-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1916

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: 890-1916-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1916

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 02/09/22 11:55 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	



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1934-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02

Client Project/Site: Remuda Basin State #2

**For:**

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
2/17/2022 2:37:39 PM

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

#### LINKS

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

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

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

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

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

**Job ID: 890-1934-1****Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-1934-1****Receipt**

The samples were received on 2/11/2022 4:16 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 2.0°C

**GC VOA**

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW08 (890-1934-1) and SW09 (890-1934-2). 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: SW08 (890-1934-1), SW09 (890-1934-2), (MB 880-19554/1-A), (880-11287-A-35-E), (880-11287-A-35-F MS) and (880-11287-A-35-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**

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-19617 and analytical batch 880-19618 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.

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW08

Lab Sample ID: 890-1934-1

Date Collected: 02/11/22 12:20

Matrix: Solid

Date Received: 02/11/22 16:16

Sample Depth: 0 - 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		02/16/22 07:11	02/16/22 15:05	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/16/22 07:11	02/16/22 15:05	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/16/22 07:11	02/16/22 15:05	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/16/22 07:11	02/16/22 15:05	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/16/22 07:11	02/16/22 15:05	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/16/22 07:11	02/16/22 15:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	139	S1+	70 - 130	02/16/22 07:11	02/16/22 15:05	1
1,4-Difluorobenzene (Surr)	99		70 - 130	02/16/22 07:11	02/16/22 15:05	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			02/16/22 16:56	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			02/17/22 13:52	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		02/16/22 08:36	02/16/22 14:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/16/22 08:36	02/16/22 14:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/16/22 08:36	02/16/22 14:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	68	S1-	70 - 130	02/16/22 08:36	02/16/22 14:13	1
o-Terphenyl	79		70 - 130	02/16/22 08:36	02/16/22 14:13	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	362		25.2	mg/Kg			02/16/22 16:48	5

Client Sample ID: SW09

Lab Sample ID: 890-1934-2

Date Collected: 02/11/22 13:00

Matrix: Solid

Date Received: 02/11/22 16:16

Sample Depth: 0 - 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		02/16/22 07:11	02/16/22 15:25	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/16/22 07:11	02/16/22 15:25	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/16/22 07:11	02/16/22 15:25	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/16/22 07:11	02/16/22 15:25	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/16/22 07:11	02/16/22 15:25	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/16/22 07:11	02/16/22 15:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	147	S1+	70 - 130	02/16/22 07:11	02/16/22 15:25	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW09

Lab Sample ID: 890-1934-2

Date Collected: 02/11/22 13:00

Matrix: Solid

Date Received: 02/11/22 16:16

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	100		70 - 130	02/16/22 07:11	02/16/22 15:25	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			02/16/22 16:56	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			02/17/22 13:52	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		02/16/22 08:36	02/16/22 14:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/16/22 08:36	02/16/22 14:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/16/22 08:36	02/16/22 14:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	69	S1-	70 - 130			02/16/22 08:36	02/16/22 14:34	1
o-Terphenyl	82		70 - 130			02/16/22 08:36	02/16/22 14:34	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	432	F1	25.0	mg/Kg			02/16/22 15:08	5



## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

## 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)
820-3407-A-1-G MS	Matrix Spike	130	99
820-3407-A-1-H MSD	Matrix Spike Duplicate	100	99
890-1934-1	SW08	139 S1+	99
890-1934-2	SW09	147 S1+	100
LCS 880-19550/1-A	Lab Control Sample	128	107
LCSD 880-19550/2-A	Lab Control Sample Dup	122	96
MB 880-19550/5-A	Method Blank	120	92
<b>Surrogate Legend</b>			
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)
880-11287-A-35-F MS	Matrix Spike	64 S1-	57 S1-
880-11287-A-35-G MSD	Matrix Spike Duplicate	66 S1-	59 S1-
890-1934-1	SW08	68 S1-	79
890-1934-2	SW09	69 S1-	82
LCS 880-19554/2-A	Lab Control Sample	107	111
LCSD 880-19554/3-A	Lab Control Sample Dup	101	103
MB 880-19554/1-A	Method Blank	59 S1-	68 S1-
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-19550/5-A

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19550

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/16/22 07:11	02/16/22 10:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	02/16/22 07:11	02/16/22 10:27	1
1,4-Difluorobenzene (Surr)	92		70 - 130	02/16/22 07:11	02/16/22 10:27	1

Lab Sample ID: LCS 880-19550/1-A

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09140		mg/Kg		91	70 - 130
Toluene	0.100	0.1084		mg/Kg		108	70 - 130
Ethylbenzene	0.100	0.1057		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2056		mg/Kg		103	70 - 130
o-Xylene	0.100	0.1068		mg/Kg		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	128		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-19550/2-A

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08812		mg/Kg		88	70 - 130	4	35
Toluene	0.100	0.09782		mg/Kg		98	70 - 130	10	35
Ethylbenzene	0.100	0.09610		mg/Kg		96	70 - 130	9	35
m-Xylene & p-Xylene	0.200	0.1958		mg/Kg		98	70 - 130	5	35
o-Xylene	0.100	0.09318		mg/Kg		93	70 - 130	14	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: 820-3407-A-1-G MS

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00202	U	0.0996	0.09093		mg/Kg		91	70 - 130
Toluene	<0.00202	U	0.0996	0.09748		mg/Kg		98	70 - 130

Eurofins Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 820-3407-A-1-G MS

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00202	U	0.0996	0.1000		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	<0.00404	U	0.199	0.1942		mg/Kg		98	70 - 130
o-Xylene	<0.00202	U	0.0996	0.09250		mg/Kg		93	70 - 130
Surrogate	MS %Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	130		70 - 130						
1,4-Difluorobenzene (Surr)	99		70 - 130						

Lab Sample ID: 820-3407-A-1-H MSD

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.100	0.08564		mg/Kg		86	70 - 130	6	35
Toluene	<0.00202	U	0.100	0.09258		mg/Kg		93	70 - 130	5	35
Ethylbenzene	<0.00202	U	0.100	0.1031		mg/Kg		103	70 - 130	3	35
m-Xylene & p-Xylene	<0.00404	U	0.200	0.1916		mg/Kg		96	70 - 130	1	35
o-Xylene	<0.00202	U	0.100	0.09194		mg/Kg		92	70 - 130	1	35
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	100		70 - 130								
1,4-Difluorobenzene (Surr)	99		70 - 130								

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

Lab Sample ID: MB 880-19554/1-A

Matrix: Solid

Analysis Batch: 19566

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19554

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		02/16/22 08:36	02/16/22 11:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/16/22 08:36	02/16/22 11:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/16/22 08:36	02/16/22 11:26	1
Surrogate	MB %Recovery	MB Qualifier	MB Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	59	S1-	70 - 130			02/16/22 08:36	02/16/22 11:26	1
o-Terphenyl	68	S1-	70 - 130			02/16/22 08:36	02/16/22 11:26	1

Lab Sample ID: LCS 880-19554/2-A

Matrix: Solid

Analysis Batch: 19566

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19554

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	844.6		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	1000	909.4		mg/Kg		91	70 - 130

Eurofins Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCS 880-19554/2-A

Matrix: Solid

Analysis Batch: 19566

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19554

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: LCSD 880-19554/3-A

Matrix: Solid

Analysis Batch: 19566

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19554

			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	792.3		mg/Kg		79	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	839.6		mg/Kg		84	70 - 130	8	20
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	101		70 - 130								
o-Terphenyl	103		70 - 130								

Lab Sample ID: 880-11287-A-35-F MS

Matrix: Solid

Analysis Batch: 19566

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19554

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	922.5		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	945.4		mg/Kg		90	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	64	S1-	70 - 130								
o-Terphenyl	57	S1-	70 - 130								

Lab Sample ID: 880-11287-A-35-G MSD

Matrix: Solid

Analysis Batch: 19566

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19554

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	948.8		mg/Kg		95	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	983.0		mg/Kg		94	70 - 130	4	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	66	S1-	70 - 130								
o-Terphenyl	59	S1-	70 - 130								

Eurofins Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-19617/1-A

Matrix: Solid

Analysis Batch: 19618

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			02/16/22 14:42	1

Lab Sample ID: LCS 880-19617/2-A

Matrix: Solid

Analysis Batch: 19618

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	262.7		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-19617/3-A

Matrix: Solid

Analysis Batch: 19618

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	261.7		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-1934-2 MS

Matrix: Solid

Analysis Batch: 19618

Client Sample ID: SW09

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	432	F1	1250	1974	F1	mg/Kg		123	90 - 110

Lab Sample ID: 890-1934-2 MSD

Matrix: Solid

Analysis Batch: 19618

Client Sample ID: SW09

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	432	F1	1250	1938	F1	mg/Kg		120	90 - 110	2	20

Eurofins Carlsbad

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 19550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1934-1	SW08	Total/NA	Solid	5035	
890-1934-2	SW09	Total/NA	Solid	5035	
MB 880-19550/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-19550/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-19550/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-3407-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
820-3407-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 19551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1934-1	SW08	Total/NA	Solid	8021B	19550
890-1934-2	SW09	Total/NA	Solid	8021B	19550
MB 880-19550/5-A	Method Blank	Total/NA	Solid	8021B	19550
LCS 880-19550/1-A	Lab Control Sample	Total/NA	Solid	8021B	19550
LCSD 880-19550/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	19550
820-3407-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	19550
820-3407-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	19550

## Analysis Batch: 19643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1934-1	SW08	Total/NA	Solid	Total BTEX	
890-1934-2	SW09	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 19554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1934-1	SW08	Total/NA	Solid	8015NM Prep	
890-1934-2	SW09	Total/NA	Solid	8015NM Prep	
MB 880-19554/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-19554/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-19554/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-11287-A-35-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-11287-A-35-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 19566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1934-1	SW08	Total/NA	Solid	8015B NM	19554
890-1934-2	SW09	Total/NA	Solid	8015B NM	19554
MB 880-19554/1-A	Method Blank	Total/NA	Solid	8015B NM	19554
LCS 880-19554/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	19554
LCSD 880-19554/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	19554
880-11287-A-35-F MS	Matrix Spike	Total/NA	Solid	8015B NM	19554
880-11287-A-35-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	19554

## Analysis Batch: 19712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1934-1	SW08	Total/NA	Solid	8015 NM	
890-1934-2	SW09	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

## HPLC/IC

## Leach Batch: 19617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1934-1	SW08	Soluble	Solid	DI Leach	
890-1934-2	SW09	Soluble	Solid	DI Leach	
MB 880-19617/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19617/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19617/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1934-2 MS	SW09	Soluble	Solid	DI Leach	
890-1934-2 MSD	SW09	Soluble	Solid	DI Leach	

## Analysis Batch: 19618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1934-1	SW08	Soluble	Solid	300.0	19617
890-1934-2	SW09	Soluble	Solid	300.0	19617
MB 880-19617/1-A	Method Blank	Soluble	Solid	300.0	19617
LCS 880-19617/2-A	Lab Control Sample	Soluble	Solid	300.0	19617
LCSD 880-19617/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19617
890-1934-2 MS	SW09	Soluble	Solid	300.0	19617
890-1934-2 MSD	SW09	Soluble	Solid	300.0	19617

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW08

Lab Sample ID: 890-1934-1

Date Collected: 02/11/22 12:20

Matrix: Solid

Date Received: 02/11/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19550	02/16/22 07:11	KL	XEN MID
Total/NA	Analysis	8021B		1	19551	02/16/22 15:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19643	02/16/22 16:56	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19712	02/17/22 13:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19554	02/16/22 08:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19566	02/16/22 14:13	AJ	XEN MID
Soluble	Leach	DI Leach			19617	02/16/22 14:00	CH	XEN MID
Soluble	Analysis	300.0		5	19618	02/16/22 16:48	CH	XEN MID

Client Sample ID: SW09

Lab Sample ID: 890-1934-2

Date Collected: 02/11/22 13:00

Matrix: Solid

Date Received: 02/11/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19550	02/16/22 07:11	KL	XEN MID
Total/NA	Analysis	8021B		1	19551	02/16/22 15:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19643	02/16/22 16:56	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19712	02/17/22 13:52	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19554	02/16/22 08:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19566	02/16/22 14:34	AJ	XEN MID
Soluble	Leach	DI Leach			19617	02/16/22 14:00	CH	XEN MID
Soluble	Analysis	300.0		5	19618	02/16/22 15:08	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: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

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: Remuda Basin State #2

Job ID: 890-1934-1  
SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1934-1	SW08	Solid	02/11/22 12:20	02/11/22 16:16	0 - 4
890-1934-2	SW09	Solid	02/11/22 13:00	02/11/22 16:16	0 - 4

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- 10
- 11
- 12
- 13
- 14



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Work Order Comments			
Program: UST/PST	<input type="checkbox"/> RP	<input type="checkbox"/> Growfields	<input type="checkbox"/> C <input type="checkbox"/> perfund <input type="checkbox"/>
State of Project:			
Reporting Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> ST/UST	<input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/>	ADAPT <input type="checkbox"/>	Other: <input type="checkbox"/>

890-1934 Chain of Custody

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

1631 / 245.1 / 7470 / 7471 : Hg

[illegible]

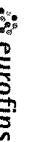
Date/Time	2.11.2016
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## Eurofins Carlshad

1089 N Canal St  
Carlshad NM 88220  
Phone: 575-988-3199 Fax: 575-988-3199

## Chain of Custody Record



Environment Testing  
America

<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab PM	Camera Tracking No(s)	COC No:
Client Contact:	Phone:	Kramer, Jessica			890-624 1
Shipping/Receiving	E-Mail	jessica.kramer@eurofins.com	State of Origin	Page	Page 1 of 1
Company:	Accreditations Required (See note):	NEIAP - Louisiana, NEIAP - Texas	New Mexico	Job #	890-1934-1
Eurofins Environment Testing South Cent	Due Date Requested	2/15/2022	Analysis Requested		
Address	City	Midland	TAT Requested (days):		
121 W Florida Ave.	State, Zip:	TX, 79701	PO #		
Phone:	432-704-5440(Tel)	WO #:	Project #:		
Email	Remuda Basin State #2	SSON#:	Field Filtered Sample (Yes or No)		
Project Name:	Remuda Basin State #2	SSON#:	Perform MS/MSD (Yes or No)		
Site:	SSON#:	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH			
		8015MOD_Calc			
		300_ORGFM_28D/DI_LEACH Chloride			
		8021B/5035FFP_Calc (MOD) BTEX			
		Total_BTEX_GCV			
		Total Number of containers			
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=oil, BI=tissue, A=air)
SW08 (890-1934-1)	2/11/22	12:20	Mountain	Solid	1
SW09 (890-1934-2)	2/11/22	13:00	Mountain	Solid	1
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other institutions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.					
<b>Possible Hazard Identification</b>					
Unconfirmed					
Deliverable Requested I II III IV Other (specify)					
Primary Deliverable Rank: 2					
Special Instructions/QC Requirements					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months					
Empty Kit Relinquished by					
Relinquished by		Date/Time	Company	Received by	Date/Time
Relinquished by		Date/Time	Company	Received by	Date/Time
Relinquished by		Date/Time	Company	Received by	Date/Time
Custody Seals Intact		Custody Seal No	Cooler Temperature(s) °C and Other Remarks.		
Δ Yes Δ No			5.4/5.3		

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1934-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1934

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: 890-1934-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1934

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 02/16/22 11:59 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	





## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1940-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02

Client Project/Site: Remuda Basin State #2

**For:**

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
2/18/2022 5:17:29 PM

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

#### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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



Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## 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
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

**Job ID: 890-1940-1****Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-1940-1****Receipt**

The samples were received on 2/14/2022 4:42 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C

**GC VOA**

Method 8021B: Surrogate recovery for the following sample was outside control limits: SW15 (890-1940-5). 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: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-19555 and analytical batch 880-19569 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (880-11287-A-38-E MS). Evidence of matrix interferences is not obvious.

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

**HPLC/IC**

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

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW11

Lab Sample ID: 890-1940-1

Date Collected: 02/14/22 11:50

Matrix: Solid

Date Received: 02/14/22 16:42

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:03	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:03	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/16/22 07:11	02/16/22 13:03	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:03	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/16/22 07:11	02/16/22 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	02/16/22 07:11	02/16/22 13:03	1
1,4-Difluorobenzene (Surr)	74		70 - 130	02/16/22 07:11	02/16/22 13:03	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			02/16/22 16:56	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			02/17/22 13:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/16/22 08:38	02/16/22 14:26	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/16/22 08:38	02/16/22 14:26	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/16/22 08:38	02/16/22 14:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	02/16/22 08:38	02/16/22 14:26	1
o-Terphenyl	95		70 - 130	02/16/22 08:38	02/16/22 14:26	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	525		4.99	mg/Kg			02/17/22 20:19	1

Client Sample ID: SW12

Lab Sample ID: 890-1940-2

Date Collected: 02/14/22 11:55

Matrix: Solid

Date Received: 02/14/22 16:42

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:23	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:23	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/16/22 07:11	02/16/22 13:23	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:23	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/16/22 07:11	02/16/22 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	02/16/22 07:11	02/16/22 13:23	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW12

Lab Sample ID: 890-1940-2

Date Collected: 02/14/22 11:55

Matrix: Solid

Date Received: 02/14/22 16:42

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	92		70 - 130	02/16/22 07:11	02/16/22 13:23	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			02/16/22 16:56	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			02/17/22 13:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/16/22 08:38	02/16/22 14:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/16/22 08:38	02/16/22 14:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/16/22 08:38	02/16/22 14:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130			02/16/22 08:38	02/16/22 14:47	1
o-Terphenyl	103		70 - 130			02/16/22 08:38	02/16/22 14:47	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	483		5.05	mg/Kg			02/17/22 20:25	1

Client Sample ID: SW13

Lab Sample ID: 890-1940-3

Date Collected: 02/14/22 11:35

Matrix: Solid

Date Received: 02/14/22 16:42

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:43	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:43	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/16/22 07:11	02/16/22 13:43	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/16/22 07:11	02/16/22 13:43	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/16/22 07:11	02/16/22 13:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	02/16/22 07:11	02/16/22 13:43	1
1,4-Difluorobenzene (Surr)	102		70 - 130	02/16/22 07:11	02/16/22 13:43	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			02/16/22 16:56	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			02/17/22 13:29	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW13

## Lab Sample ID: 890-1940-3

Date Collected: 02/14/22 11:35

Matrix: Solid

Date Received: 02/14/22 16:42

Sample Depth: 0 - 4

## 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		02/16/22 08:38	02/16/22 15:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 15:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 15:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			02/16/22 08:38	02/16/22 15:07	1
o-Terphenyl	98		70 - 130			02/16/22 08:38	02/16/22 15:07	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	274		4.98	mg/Kg			02/17/22 20:32	1

## Client Sample ID: SW14

## Lab Sample ID: 890-1940-4

Date Collected: 02/14/22 12:15

Matrix: Solid

Date Received: 02/14/22 16:42

Sample Depth: 0 - 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		02/16/22 07:11	02/16/22 14:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 14:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 14:04	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/16/22 07:11	02/16/22 14:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 14:04	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/16/22 07:11	02/16/22 14:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			02/16/22 07:11	02/16/22 14:04	1
1,4-Difluorobenzene (Surr)	118		70 - 130			02/16/22 07:11	02/16/22 14:04	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			02/16/22 16:56	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			02/17/22 13:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 15:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 15:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 15:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130			02/16/22 08:38	02/16/22 15:28	1
o-Terphenyl	95		70 - 130			02/16/22 08:38	02/16/22 15:28	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW14

## Lab Sample ID: 890-1940-4

Date Collected: 02/14/22 12:15

Matrix: Solid

Date Received: 02/14/22 16:42

Sample Depth: 0 - 4

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34.2		4.99	mg/Kg			02/17/22 20:51	1

## Client Sample ID: SW15

## Lab Sample ID: 890-1940-5

Date Collected: 02/14/22 12:20

Matrix: Solid

Date Received: 02/14/22 16:42

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/16/22 07:11	02/16/22 14:24	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/16/22 07:11	02/16/22 14:24	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/16/22 07:11	02/16/22 14:24	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		02/16/22 07:11	02/16/22 14:24	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/16/22 07:11	02/16/22 14:24	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		02/16/22 07:11	02/16/22 14:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	144	S1+	70 - 130			02/16/22 07:11	02/16/22 14:24	1
1,4-Difluorobenzene (Surr)	110		70 - 130			02/16/22 07:11	02/16/22 14:24	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			02/16/22 16:56	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			02/17/22 13:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/16/22 08:38	02/16/22 15:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/16/22 08:38	02/16/22 15:49	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/16/22 08:38	02/16/22 15:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130			02/16/22 08:38	02/16/22 15:49	1
o-Terphenyl	91		70 - 130			02/16/22 08:38	02/16/22 15:49	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	210		24.8	mg/Kg			02/18/22 16:34	5

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW06

Lab Sample ID: 890-1940-6

Date Collected: 02/14/22 15:10

Matrix: Solid

Date Received: 02/14/22 16:42

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/16/22 07:11	02/16/22 14:45	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/16/22 07:11	02/16/22 14:45	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/16/22 07:11	02/16/22 14:45	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		02/16/22 07:11	02/16/22 14:45	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/16/22 07:11	02/16/22 14:45	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		02/16/22 07:11	02/16/22 14:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	02/16/22 07:11	02/16/22 14:45	1
1,4-Difluorobenzene (Surr)	119		70 - 130	02/16/22 07:11	02/16/22 14:45	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			02/16/22 16:56	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			02/17/22 13:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 16:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 16:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	02/16/22 08:38	02/16/22 16:10	1
o-Terphenyl	98		70 - 130	02/16/22 08:38	02/16/22 16:10	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	159		24.8	mg/Kg			02/17/22 21:03	5

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## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## 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)
820-3407-A-1-G MS	Matrix Spike	130	99
820-3407-A-1-H MSD	Matrix Spike Duplicate	100	99
890-1940-1	SW11	120	74
890-1940-2	SW12	128	92
890-1940-3	SW13	133 S1+	102
890-1940-4	SW14	99	118
890-1940-5	SW15	144 S1+	110
890-1940-6	SW06	103	119
LCS 880-19550/1-A	Lab Control Sample	128	107
LCSD 880-19550/2-A	Lab Control Sample Dup	122	96
MB 880-19550/5-A	Method Blank	120	92
<b>Surrogate Legend</b>			
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)
880-11287-A-38-E MS	Matrix Spike	71	66 S1-
880-11287-A-38-F MSD	Matrix Spike Duplicate	84	77
890-1940-1	SW11	88	95
890-1940-2	SW12	98	103
890-1940-3	SW13	93	98
890-1940-4	SW14	91	95
890-1940-5	SW15	92	91
890-1940-6	SW06	93	98
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## 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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-19555/2-A	Lab Control Sample	108	123
LCSD 880-19555/3-A	Lab Control Sample Dup	102	118
MB 880-19555/1-A	Method Blank	82	91
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-19550/5-A

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19550

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/16/22 07:11	02/16/22 10:27	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/16/22 07:11	02/16/22 10:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	02/16/22 07:11	02/16/22 10:27	1
1,4-Difluorobenzene (Surr)	92		70 - 130	02/16/22 07:11	02/16/22 10:27	1

Lab Sample ID: LCS 880-19550/1-A

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09140		mg/Kg		91	70 - 130
Toluene	0.100	0.1084		mg/Kg		108	70 - 130
Ethylbenzene	0.100	0.1057		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2056		mg/Kg		103	70 - 130
o-Xylene	0.100	0.1068		mg/Kg		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	128		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-19550/2-A

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08812		mg/Kg		88	70 - 130	4	35
Toluene	0.100	0.09782		mg/Kg		98	70 - 130	10	35
Ethylbenzene	0.100	0.09610		mg/Kg		96	70 - 130	9	35
m-Xylene & p-Xylene	0.200	0.1958		mg/Kg		98	70 - 130	5	35
o-Xylene	0.100	0.09318		mg/Kg		93	70 - 130	14	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: 820-3407-A-1-G MS

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00202	U	0.0996	0.09093		mg/Kg		91	70 - 130
Toluene	<0.00202	U	0.0996	0.09748		mg/Kg		98	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 820-3407-A-1-G MS

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00202	U	0.0996	0.1000		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	<0.00404	U	0.199	0.1942		mg/Kg		98	70 - 130
o-Xylene	<0.00202	U	0.0996	0.09250		mg/Kg		93	70 - 130

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

Lab Sample ID: 820-3407-A-1-H MSD

Matrix: Solid

Analysis Batch: 19551

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.100	0.08564		mg/Kg		86	70 - 130	6	35
Toluene	<0.00202	U	0.100	0.09258		mg/Kg		93	70 - 130	5	35
Ethylbenzene	<0.00202	U	0.100	0.1031		mg/Kg		103	70 - 130	3	35
m-Xylene & p-Xylene	<0.00404	U	0.200	0.1916		mg/Kg		96	70 - 130	1	35
o-Xylene	<0.00202	U	0.100	0.09194		mg/Kg		92	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

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

Lab Sample ID: MB 880-19555/1-A

Matrix: Solid

Analysis Batch: 19569

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19555

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		02/16/22 08:38	02/16/22 11:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 11:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/16/22 08:38	02/16/22 11:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130	02/16/22 08:38	02/16/22 11:41	1
o-Terphenyl	91		70 - 130	02/16/22 08:38	02/16/22 11:41	1

Lab Sample ID: LCS 880-19555/2-A

Matrix: Solid

Analysis Batch: 19569

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1005		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1044		mg/Kg		104	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCS 880-19555/2-A

Matrix: Solid

Analysis Batch: 19569

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19555

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	123		70 - 130

Lab Sample ID: LCSD 880-19555/3-A

Matrix: Solid

Analysis Batch: 19569

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19555

			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	975.8		mg/Kg		98	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	1013		mg/Kg		101	70 - 130	3	20
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	102		70 - 130								
o-Terphenyl	118		70 - 130								

Lab Sample ID: 880-11287-A-38-E MS

Matrix: Solid

Analysis Batch: 19569

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19555

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	1000	933.5		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F1	1000	1195		mg/Kg		120	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	71		70 - 130								
o-Terphenyl	66	S1-	70 - 130								

Lab Sample ID: 880-11287-A-38-F MSD

Matrix: Solid

Analysis Batch: 19569

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19555

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	998	1256	F2	mg/Kg		123	70 - 130	29	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	998	1394	F1	mg/Kg		140	70 - 130	15	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	84		70 - 130								
o-Terphenyl	77		70 - 130								

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-19609/1-A

Matrix: Solid

Analysis Batch: 19681

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			02/17/22 19:34	1

Lab Sample ID: LCS 880-19609/2-A

Matrix: Solid

Analysis Batch: 19681

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	254.7		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-19609/3-A

Matrix: Solid

Analysis Batch: 19681

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	258.7		mg/Kg		103	90 - 110	2	20

Lab Sample ID: 880-11208-A-2-C MS

Matrix: Solid

Analysis Batch: 19681

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	446		248	706.4		mg/Kg		105	90 - 110

Lab Sample ID: 880-11208-A-2-D MSD

Matrix: Solid

Analysis Batch: 19681

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	446		248	716.5		mg/Kg		109	90 - 110	1	20

Lab Sample ID: 880-11277-A-1-B MS

Matrix: Solid

Analysis Batch: 19681

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	3330		2500	6069		mg/Kg		109	90 - 110

Lab Sample ID: 880-11277-A-1-C MSD

Matrix: Solid

Analysis Batch: 19681

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	3330		2500	6076		mg/Kg		110	90 - 110	0	20

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 19550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1940-1	SW11	Total/NA	Solid	5035	
890-1940-2	SW12	Total/NA	Solid	5035	
890-1940-3	SW13	Total/NA	Solid	5035	
890-1940-4	SW14	Total/NA	Solid	5035	
890-1940-5	SW15	Total/NA	Solid	5035	
890-1940-6	SW06	Total/NA	Solid	5035	
MB 880-19550/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-19550/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-19550/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
820-3407-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
820-3407-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 19551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1940-1	SW11	Total/NA	Solid	8021B	19550
890-1940-2	SW12	Total/NA	Solid	8021B	19550
890-1940-3	SW13	Total/NA	Solid	8021B	19550
890-1940-4	SW14	Total/NA	Solid	8021B	19550
890-1940-5	SW15	Total/NA	Solid	8021B	19550
890-1940-6	SW06	Total/NA	Solid	8021B	19550
MB 880-19550/5-A	Method Blank	Total/NA	Solid	8021B	19550
LCS 880-19550/1-A	Lab Control Sample	Total/NA	Solid	8021B	19550
LCSD 880-19550/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	19550
820-3407-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	19550
820-3407-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	19550

## Analysis Batch: 19642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1940-1	SW11	Total/NA	Solid	Total BTEX	
890-1940-2	SW12	Total/NA	Solid	Total BTEX	
890-1940-3	SW13	Total/NA	Solid	Total BTEX	
890-1940-4	SW14	Total/NA	Solid	Total BTEX	
890-1940-5	SW15	Total/NA	Solid	Total BTEX	
890-1940-6	SW06	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 19555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1940-1	SW11	Total/NA	Solid	8015NM Prep	
890-1940-2	SW12	Total/NA	Solid	8015NM Prep	
890-1940-3	SW13	Total/NA	Solid	8015NM Prep	
890-1940-4	SW14	Total/NA	Solid	8015NM Prep	
890-1940-5	SW15	Total/NA	Solid	8015NM Prep	
890-1940-6	SW06	Total/NA	Solid	8015NM Prep	
MB 880-19555/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-19555/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-19555/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-11287-A-38-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-11287-A-38-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## GC Semi VOA

## Analysis Batch: 19569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1940-1	SW11	Total/NA	Solid	8015B NM	19555
890-1940-2	SW12	Total/NA	Solid	8015B NM	19555
890-1940-3	SW13	Total/NA	Solid	8015B NM	19555
890-1940-4	SW14	Total/NA	Solid	8015B NM	19555
890-1940-5	SW15	Total/NA	Solid	8015B NM	19555
890-1940-6	SW06	Total/NA	Solid	8015B NM	19555
MB 880-19555/1-A	Method Blank	Total/NA	Solid	8015B NM	19555
LCS 880-19555/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	19555
LCSD 880-19555/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	19555
880-11287-A-38-E MS	Matrix Spike	Total/NA	Solid	8015B NM	19555
880-11287-A-38-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	19555

## Analysis Batch: 19697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1940-1	SW11	Total/NA	Solid	8015 NM	
890-1940-2	SW12	Total/NA	Solid	8015 NM	
890-1940-3	SW13	Total/NA	Solid	8015 NM	
890-1940-4	SW14	Total/NA	Solid	8015 NM	
890-1940-5	SW15	Total/NA	Solid	8015 NM	
890-1940-6	SW06	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 19609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1940-1	SW11	Soluble	Solid	DI Leach	
890-1940-2	SW12	Soluble	Solid	DI Leach	
890-1940-3	SW13	Soluble	Solid	DI Leach	
890-1940-4	SW14	Soluble	Solid	DI Leach	
890-1940-5	SW15	Soluble	Solid	DI Leach	
890-1940-6	SW06	Soluble	Solid	DI Leach	
MB 880-19609/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19609/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19609/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11208-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11208-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
880-11277-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11277-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 19681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1940-1	SW11	Soluble	Solid	300.0	19609
890-1940-2	SW12	Soluble	Solid	300.0	19609
890-1940-3	SW13	Soluble	Solid	300.0	19609
890-1940-4	SW14	Soluble	Solid	300.0	19609
890-1940-5	SW15	Soluble	Solid	300.0	19609
890-1940-6	SW06	Soluble	Solid	300.0	19609
MB 880-19609/1-A	Method Blank	Soluble	Solid	300.0	19609
LCS 880-19609/2-A	Lab Control Sample	Soluble	Solid	300.0	19609
LCSD 880-19609/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19609
880-11208-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	19609

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## HPLC/IC (Continued)

## Analysis Batch: 19681 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11208-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	19609
880-11277-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	19609
880-11277-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	19609



## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW11

## Lab Sample ID: 890-1940-1

Date Collected: 02/14/22 11:50

Matrix: Solid

Date Received: 02/14/22 16:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19550	02/16/22 07:11	KL	XEN MID
Total/NA	Analysis	8021B		1	19551	02/16/22 13:03	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19642	02/16/22 16:56	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19697	02/17/22 13:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19555	02/16/22 08:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19569	02/16/22 14:26	AJ	XEN MID
Soluble	Leach	DI Leach			19609	02/16/22 12:17	CH	XEN MID
Soluble	Analysis	300.0		1	19681	02/17/22 20:19	CH	XEN MID

## Client Sample ID: SW12

## Lab Sample ID: 890-1940-2

Date Collected: 02/14/22 11:55

Matrix: Solid

Date Received: 02/14/22 16:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19550	02/16/22 07:11	KL	XEN MID
Total/NA	Analysis	8021B		1	19551	02/16/22 13:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19642	02/16/22 16:56	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19697	02/17/22 13:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19555	02/16/22 08:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19569	02/16/22 14:47	AJ	XEN MID
Soluble	Leach	DI Leach			19609	02/16/22 12:17	CH	XEN MID
Soluble	Analysis	300.0		1	19681	02/17/22 20:25	CH	XEN MID

## Client Sample ID: SW13

## Lab Sample ID: 890-1940-3

Date Collected: 02/14/22 11:35

Matrix: Solid

Date Received: 02/14/22 16:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19550	02/16/22 07:11	KL	XEN MID
Total/NA	Analysis	8021B		1	19551	02/16/22 13:43	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19642	02/16/22 16:56	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19697	02/17/22 13:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19555	02/16/22 08:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19569	02/16/22 15:07	AJ	XEN MID
Soluble	Leach	DI Leach			19609	02/16/22 12:17	CH	XEN MID
Soluble	Analysis	300.0		1	19681	02/17/22 20:32	CH	XEN MID

## Client Sample ID: SW14

## Lab Sample ID: 890-1940-4

Date Collected: 02/14/22 12:15

Matrix: Solid

Date Received: 02/14/22 16:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19550	02/16/22 07:11	KL	XEN MID
Total/NA	Analysis	8021B		1	19551	02/16/22 14:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19642	02/16/22 16:56	AJ	XEN MID

Eurofins Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW14

## Lab Sample ID: 890-1940-4

Date Collected: 02/14/22 12:15

Matrix: Solid

Date Received: 02/14/22 16:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	19697	02/17/22 13:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19555	02/16/22 08:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19569	02/16/22 15:28	AJ	XEN MID
Soluble	Leach	DI Leach			19609	02/16/22 12:17	CH	XEN MID
Soluble	Analysis	300.0		1	19681	02/17/22 20:51	CH	XEN MID

## Client Sample ID: SW15

## Lab Sample ID: 890-1940-5

Date Collected: 02/14/22 12:20

Matrix: Solid

Date Received: 02/14/22 16:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19550	02/16/22 07:11	KL	XEN MID
Total/NA	Analysis	8021B		1	19551	02/16/22 14:24	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19642	02/16/22 16:56	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19697	02/17/22 13:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19555	02/16/22 08:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19569	02/16/22 15:49	AJ	XEN MID
Soluble	Leach	DI Leach			19609	02/16/22 12:17	CH	XEN MID
Soluble	Analysis	300.0		5	19681	02/18/22 16:34	CH	XEN MID

## Client Sample ID: SW06

## Lab Sample ID: 890-1940-6

Date Collected: 02/14/22 15:10

Matrix: Solid

Date Received: 02/14/22 16:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19550	02/16/22 07:11	KL	XEN MID
Total/NA	Analysis	8021B		1	19551	02/16/22 14:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19642	02/16/22 16:56	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19697	02/17/22 13:29	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19555	02/16/22 08:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19569	02/16/22 16:10	AJ	XEN MID
Soluble	Leach	DI Leach			19609	02/16/22 12:17	CH	XEN MID
Soluble	Analysis	300.0		5	19681	02/17/22 21:03	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: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

### 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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

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: Remuda Basin State #2

Job ID: 890-1940-1  
SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1940-1	SW11	Solid	02/14/22 11:50	02/14/22 16:42	0 - 4
890-1940-2	SW12	Solid	02/14/22 11:55	02/14/22 16:42	0 - 4
890-1940-3	SW13	Solid	02/14/22 11:35	02/14/22 16:42	0 - 4
890-1940-4	SW14	Solid	02/14/22 12:15	02/14/22 16:42	0 - 4
890-1940-5	SW15	Solid	02/14/22 12:20	02/14/22 16:42	0 - 4
890-1940-6	SW06	Solid	02/14/22 15:10	02/14/22 16:42	0 - 4

## Chain of Custody

Work Order No:

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
Midland, TX (432-704-5440) EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

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Project Manager:	Aimee Cole	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:	Arvada, Colorado 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:	720.384.7365	Email:	conner.shore@wsp.com; Aimee.cole@wsp.com

Program: <input type="checkbox"/> PST <input type="checkbox"/> RP <input type="checkbox"/> Rowfields <input type="checkbox"/> C <input type="checkbox"/> perfund <input type="checkbox"/>
State of Project:
Reporting Level: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> ST/UST <input type="checkbox"/> RP <input type="checkbox"/> Vel IV <input type="checkbox"/>
Deliverables: <input type="checkbox"/> EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:

Project Name:		Remuda Basin State #2		Turn Around		ANALYSIS REQUEST										Work Order Notes
Project Number:		31403236.001.0129.35.02		Routine <input type="checkbox"/>												AFE: EW:2022 00063 EXP.01
P.O. Number:				Rush: 24 Hr TAT												
Sampler's Name:		Conner Shore		Due Date:												

SAMPLE RECEIPT		Temp Blank:		Yes		No		Wet Ice:		Yes		No	
Temperature (°C):		20.10											
Received Intact:		Yes		No		Yes		No		Yes		No	
Cooler Custody Seals:		Yes		No		Yes		No		Yes		No	
Sample Custody Seals:		Yes		No		Yes		No		Yes		No	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SW11	S	2/14/2022	1150	0-4'	1	X	X	X
SW12	S	2/14/2022	1155	0-4'	1	X	X	X
SW13	S	2/14/2022	1135	0-4'	1	X	X	X
SW14	S	2/14/2022	1215	0-4'	1	X	X	X
SW15	S	2/14/2022	1220	0-4'	1	X	X	X
SW06	S	2/14/2022	1510	0-4'	1	X	X	X

890-1940 Chain of Custody

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

Sample Comments

COMPOSITE

COMPOSITE

COMPOSITE

COMPOSITE

COMPOSITE

COMPOSITE

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 Ti 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 Ti 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. [Signature]	[Signature]	2/14/22 4:42			
3. [Signature]		4			
5. [Signature]		6			

Revised Date 051418 Rev 2018 1

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1940-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1940

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: 890-1940-1

SDG Number: 31403236.001.0129.35.02

Login Number: 1940

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 02/16/22 12:10 PM

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





## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1951-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02

Client Project/Site: Remuda Basin State #2

Revision: 1

**For:**

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:

2/28/2022 1:27:53 PM

Jessica Kramer, Project Manager  
(432)704-5440

[jessica.kramer@eurofinset.com](mailto:jessica.kramer@eurofinset.com)

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

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

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

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

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

### Job ID: 890-1951-1

### Laboratory: Eurofins Carlsbad

#### Narrative

#### Job Narrative 890-1951-1

#### REVISION

The report being provided is a revision of the original report sent on 2/18/2022. The report (revision 1) is being revised due to Per client requesting we review chloride data for PH01E @ 6'.

Report revision history

#### Receipt

The samples were received on 2/15/2022 4:16 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 8.6°C

#### GC VOA

Method 8021B: The following sample was diluted due to the nature of the sample matrix: PH18E (890-1951-5) at 1.0. Elevated reporting limits (RLs) are provided.

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: PH01D (890-1951-1), PH01E (890-1951-2), PH17D (890-1951-3), PH17E (890-1951-4), PH18E (890-1951-5), PH18F (890-1951-6), (MB 880-19728/1-A), (890-1951-A-1-D MS) and (890-1951-A-1-E 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: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH01D

Lab Sample ID: 890-1951-1

Date Collected: 02/15/22 12:30

Matrix: Solid

Date Received: 02/15/22 16:16

Sample Depth: 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		02/17/22 08:20	02/17/22 17:08	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 17:08	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 17:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/17/22 08:20	02/17/22 17:08	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 17:08	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/17/22 08:20	02/17/22 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	02/17/22 08:20	02/17/22 17:08	1
1,4-Difluorobenzene (Surr)	86		70 - 130	02/17/22 08:20	02/17/22 17:08	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			02/17/22 21:03	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			02/18/22 19:48	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		02/17/22 14:29	02/18/22 10:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 10:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 10:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	66	S1-	70 - 130	02/17/22 14:29	02/18/22 10:24	1
o-Terphenyl	75		70 - 130	02/17/22 14:29	02/18/22 10:24	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1120		49.5	mg/Kg			02/18/22 13:35	10

Client Sample ID: PH01E

Lab Sample ID: 890-1951-2

Date Collected: 02/15/22 12:35

Matrix: Solid

Date Received: 02/15/22 16:16

Sample Depth: 6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/17/22 08:20	02/17/22 17:28	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/17/22 08:20	02/17/22 17:28	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/17/22 08:20	02/17/22 17:28	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		02/17/22 08:20	02/17/22 17:28	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/17/22 08:20	02/17/22 17:28	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		02/17/22 08:20	02/17/22 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	02/17/22 08:20	02/17/22 17:28	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH01E

Date Collected: 02/15/22 12:35

Date Received: 02/15/22 16:16

Sample Depth: 6

## Lab Sample ID: 890-1951-2

Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	84		70 - 130	02/17/22 08:20	02/17/22 17:28	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			02/17/22 21:03	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			02/18/22 19:48	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		02/17/22 14:29	02/18/22 11:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 11:31	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 11:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	65	S1-	70 - 130			02/17/22 14:29	02/18/22 11:31	1
o-Terphenyl	73		70 - 130			02/17/22 14:29	02/18/22 11:31	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.2		5.02	mg/Kg			02/23/22 14:48	1

## Client Sample ID: PH17D

Date Collected: 02/15/22 13:45

Date Received: 02/15/22 16:16

Sample Depth: 5

## Lab Sample ID: 890-1951-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 17:49	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 17:49	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 17:49	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/17/22 08:20	02/17/22 17:49	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 17:49	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/17/22 08:20	02/17/22 17:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	02/17/22 08:20	02/17/22 17:49	1
1,4-Difluorobenzene (Surr)	93		70 - 130	02/17/22 08:20	02/17/22 17:49	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			02/17/22 21:03	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			02/18/22 19:48	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH17D

Date Collected: 02/15/22 13:45

Date Received: 02/15/22 16:16

Sample Depth: 5

## Lab Sample ID: 890-1951-3

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		02/17/22 14:29	02/18/22 11:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/17/22 14:29	02/18/22 11:53	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/17/22 14:29	02/18/22 11:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	65	S1-	70 - 130			02/17/22 14:29	02/18/22 11:53	1
o-Terphenyl	73		70 - 130			02/17/22 14:29	02/18/22 11:53	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	603		49.8	mg/Kg			02/18/22 14:10	10

## Client Sample ID: PH17E

Date Collected: 02/15/22 14:00

Date Received: 02/15/22 16:16

Sample Depth: 6

## Lab Sample ID: 890-1951-4

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:00	02/17/22 18:08	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:00	02/17/22 18:08	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:00	02/17/22 18:08	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/17/22 08:00	02/17/22 18:08	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:00	02/17/22 18:08	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/17/22 08:00	02/17/22 18:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	159	S1+	70 - 130			02/17/22 08:00	02/17/22 18:08	1
1,4-Difluorobenzene (Surr)	72		70 - 130			02/17/22 08:00	02/17/22 18:08	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			02/17/22 21:03	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			02/18/22 19:48	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		02/17/22 14:29	02/18/22 12:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/17/22 14:29	02/18/22 12:14	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/17/22 14:29	02/18/22 12:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	66	S1-	70 - 130			02/17/22 14:29	02/18/22 12:14	1
o-Terphenyl	75		70 - 130			02/17/22 14:29	02/18/22 12:14	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH17E

Date Collected: 02/15/22 14:00

Date Received: 02/15/22 16:16

Sample Depth: 6

## Lab Sample ID: 890-1951-4

Matrix: Solid

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	467		4.95	mg/Kg			02/18/22 19:33	1

## Client Sample ID: PH18E

Date Collected: 02/15/22 12:55

Date Received: 02/15/22 16:16

Sample Depth: 6

## Lab Sample ID: 890-1951-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/17/22 08:00	02/17/22 18:34	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/17/22 08:00	02/17/22 18:34	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/17/22 08:00	02/17/22 18:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/17/22 08:00	02/17/22 18:34	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/17/22 08:00	02/17/22 18:34	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/17/22 08:00	02/17/22 18:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	142	S1+	70 - 130			02/17/22 08:00	02/17/22 18:34	1
1,4-Difluorobenzene (Surr)	89		70 - 130			02/17/22 08:00	02/17/22 18:34	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			02/17/22 21:03	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			02/18/22 19:48	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		02/17/22 14:29	02/18/22 12:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 12:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 12:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	64	S1-	70 - 130			02/17/22 14:29	02/18/22 12:35	1
o-Terphenyl	73		70 - 130			02/17/22 14:29	02/18/22 12:35	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1440		49.7	mg/Kg			02/18/22 14:28	10

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH18F

Lab Sample ID: 890-1951-6

Date Collected: 02/15/22 13:35

Matrix: Solid

Date Received: 02/15/22 16:16

Sample Depth: 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/17/22 08:00	02/17/22 19:01	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/17/22 08:00	02/17/22 19:01	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/17/22 08:00	02/17/22 19:01	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		02/17/22 08:00	02/17/22 19:01	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/17/22 08:00	02/17/22 19:01	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		02/17/22 08:00	02/17/22 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	147	S1+	70 - 130	02/17/22 08:00	02/17/22 19:01	1
1,4-Difluorobenzene (Surr)	77		70 - 130	02/17/22 08:00	02/17/22 19:01	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			02/17/22 21:03	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			02/18/22 19:48	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		02/17/22 14:29	02/18/22 12:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 12:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 12:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	65	S1-	70 - 130	02/17/22 14:29	02/18/22 12:56	1
o-Terphenyl	71		70 - 130	02/17/22 14:29	02/18/22 12:56	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	134		4.96	mg/Kg			02/18/22 19:42	1

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## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

## 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)
880-11300-A-1-B MS	Matrix Spike	140 S1+	119
880-11300-A-1-C MSD	Matrix Spike Duplicate	110	88
880-11386-A-9-B MS	Matrix Spike	124	97
880-11386-A-9-C MSD	Matrix Spike Duplicate	133 S1+	91
890-1951-1	PH01D	121	86
890-1951-2	PH01E	123	84
890-1951-3	PH17D	133 S1+	93
890-1951-4	PH17E	159 S1+	72
890-1951-5	PH18E	142 S1+	89
890-1951-6	PH18F	147 S1+	77
LCS 880-19557/1-A	Lab Control Sample	122	95
LCS 880-19658/1-A	Lab Control Sample	117	95
LCSD 880-19557/2-A	Lab Control Sample Dup	120	78
LCSD 880-19658/2-A	Lab Control Sample Dup	121	106
MB 880-19557/5-A	Method Blank	99	79
MB 880-19658/5-A	Method Blank	128	97
<b>Surrogate Legend</b>			
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)
890-1951-1	PH01D	66 S1-	75
890-1951-1 MS	PH01D	62 S1-	57 S1-
890-1951-1 MSD	PH01D	63 S1-	59 S1-
890-1951-2	PH01E	65 S1-	73
890-1951-3	PH17D	65 S1-	73
890-1951-4	PH17E	66 S1-	75
890-1951-5	PH18E	64 S1-	73
890-1951-6	PH18F	65 S1-	71
LCS 880-19728/2-A	Lab Control Sample	107	111
LCSD 880-19728/3-A	Lab Control Sample Dup	102	107
MB 880-19728/1-A	Method Blank	58 S1-	66 S1-
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-19557/5-A

Matrix: Solid

Analysis Batch: 19654

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19557

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:00	02/17/22 11:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:00	02/17/22 11:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:00	02/17/22 11:55	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/17/22 08:00	02/17/22 11:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:00	02/17/22 11:55	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/17/22 08:00	02/17/22 11:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	02/17/22 08:00	02/17/22 11:55	1
1,4-Difluorobenzene (Surr)	79		70 - 130	02/17/22 08:00	02/17/22 11:55	1

Lab Sample ID: LCS 880-19557/1-A

Matrix: Solid

Analysis Batch: 19654

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19557

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09985		mg/Kg		100	70 - 130
Toluene	0.100	0.1030		mg/Kg		103	70 - 130
Ethylbenzene	0.100	0.1034		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	0.200	0.2192		mg/Kg		110	70 - 130
o-Xylene	0.100	0.1125		mg/Kg		112	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: LCSD 880-19557/2-A

Matrix: Solid

Analysis Batch: 19654

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19557

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09609		mg/Kg		96	70 - 130	4	35
Toluene	0.100	0.09313		mg/Kg		93	70 - 130	10	35
Ethylbenzene	0.100	0.09581		mg/Kg		96	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.2014		mg/Kg		101	70 - 130	8	35
o-Xylene	0.100	0.1033		mg/Kg		103	70 - 130	9	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	120		70 - 130
1,4-Difluorobenzene (Surr)	78		70 - 130

Lab Sample ID: 880-11386-A-9-B MS

Matrix: Solid

Analysis Batch: 19654

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00198	U	0.100	0.09492		mg/Kg		95	70 - 130
Toluene	<0.00198	U	0.100	0.08886		mg/Kg		89	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 880-11386-A-9-B MS

Matrix: Solid

Analysis Batch: 19654

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00198	U	0.100	0.09004		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	<0.00397	U	0.201	0.1888		mg/Kg		94	70 - 130
o-Xylene	<0.00198	U	0.100	0.09841		mg/Kg		98	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	124		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 880-11386-A-9-C MSD

Matrix: Solid

Analysis Batch: 19654

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19557

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00198	U	0.101	0.09055		mg/Kg		90	70 - 130	5	35
Toluene	<0.00198	U	0.101	0.09669		mg/Kg		96	70 - 130	8	35
Ethylbenzene	<0.00198	U	0.101	0.09666		mg/Kg		96	70 - 130	7	35
m-Xylene & p-Xylene	<0.00397	U	0.201	0.2042		mg/Kg		101	70 - 130	8	35
o-Xylene	<0.00198	U	0.101	0.1038		mg/Kg		103	70 - 130	5	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

Lab Sample ID: MB 880-19658/5-A

Matrix: Solid

Analysis Batch: 19659

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19658

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 11:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 11:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 11:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/17/22 08:20	02/17/22 11:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/17/22 08:20	02/17/22 11:45	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/17/22 08:20	02/17/22 11:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	02/17/22 08:20	02/17/22 11:45	1
1,4-Difluorobenzene (Surr)	97		70 - 130	02/17/22 08:20	02/17/22 11:45	1

Lab Sample ID: LCS 880-19658/1-A

Matrix: Solid

Analysis Batch: 19659

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08334		mg/Kg		83	70 - 130
Toluene	0.100	0.08855		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.1017		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	0.200	0.1866		mg/Kg		93	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCS 880-19658/1-A

Matrix: Solid

Analysis Batch: 19659

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
o-Xylene	0.100	0.09302		mg/Kg		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: LCSD 880-19658/2-A

Matrix: Solid

Analysis Batch: 19659

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19658

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.08866		mg/Kg		89	70 - 130	6	35
Toluene	0.100	0.09804		mg/Kg		98	70 - 130	10	35
Ethylbenzene	0.100	0.1063		mg/Kg		106	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2051		mg/Kg		103	70 - 130	9	35
o-Xylene	0.100	0.09797		mg/Kg		98	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	121		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 880-11300-A-1-B MS

Matrix: Solid

Analysis Batch: 19659

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19658

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.00986	F1	0.100	0.07382	F1	mg/Kg		64	70 - 130
Toluene	0.0336	F1	0.100	0.09393	F1	mg/Kg		60	70 - 130
Ethylbenzene	0.0155	F1 F2	0.100	0.09043		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	0.0245	F1 F2	0.201	0.1643		mg/Kg		70	70 - 130
o-Xylene	0.0116	F1 F2	0.100	0.08287		mg/Kg		71	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130
1,4-Difluorobenzene (Surr)	119		70 - 130

Lab Sample ID: 880-11300-A-1-C MSD

Matrix: Solid

Analysis Batch: 19659

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19658

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.00986	F1	0.101	0.06771	F1	mg/Kg		57	70 - 130	9	35
Toluene	0.0336	F1	0.101	0.08624	F1	mg/Kg		52	70 - 130	9	35
Ethylbenzene	0.0155	F1 F2	0.101	0.05971	F1 F2	mg/Kg		44	70 - 130	41	35
m-Xylene & p-Xylene	0.0245	F1 F2	0.202	0.1119	F1 F2	mg/Kg		43	70 - 130	38	35
o-Xylene	0.0116	F1 F2	0.101	0.05390	F1 F2	mg/Kg		42	70 - 130	42	35

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 880-11300-A-1-C MSD

Matrix: Solid

Analysis Batch: 19659

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19658

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

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

Lab Sample ID: MB 880-19728/1-A

Matrix: Solid

Analysis Batch: 19779

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19728

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 09:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 09:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/17/22 14:29	02/18/22 09:18	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
%Recovery	Qualifier					
1-Chlorooctane	58	S1-	70 - 130	02/17/22 14:29	02/18/22 09:18	1
o-Terphenyl	66	S1-	70 - 130	02/17/22 14:29	02/18/22 09:18	1

Lab Sample ID: LCS 880-19728/2-A

Matrix: Solid

Analysis Batch: 19779

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	933.9		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1003		mg/Kg		100	70 - 130

Surrogate	LCS	LCS	Limits
%Recovery	Qualifier		
1-Chlorooctane	107		70 - 130
o-Terphenyl	111		70 - 130

Lab Sample ID: LCSD 880-19728/3-A

Matrix: Solid

Analysis Batch: 19779

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19728

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	898.3		mg/Kg		90	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	992.0		mg/Kg		99	70 - 130	1	20

Surrogate	LCSD	LCSD	Limits
%Recovery	Qualifier		
1-Chlorooctane	102		70 - 130
o-Terphenyl	107		70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 890-1951-1 MS

Matrix: Solid

Analysis Batch: 19779

Client Sample ID: PH01D

Prep Type: Total/NA

Prep Batch: 19728

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	928.3		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	907.9		mg/Kg		89	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	62	S1-	70 - 130						
o-Terphenyl	57	S1-	70 - 130						

Lab Sample ID: 890-1951-1 MSD

Matrix: Solid

Analysis Batch: 19779

Client Sample ID: PH01D

Prep Type: Total/NA

Prep Batch: 19728

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	970.6		mg/Kg		97	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	924.0		mg/Kg		91	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	63	S1-	70 - 130								
o-Terphenyl	59	S1-	70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-19773/1-A

Matrix: Solid

Analysis Batch: 19832

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			02/18/22 10:04	1

Lab Sample ID: LCS 880-19773/2-A

Matrix: Solid

Analysis Batch: 19832

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	269.7		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-19773/3-A

Matrix: Solid

Analysis Batch: 19832

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	270.7		mg/Kg		108	90 - 110	0	20

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-11404-A-11-H MS

Matrix: Solid

Analysis Batch: 19832

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	<4.95	U F1	248	292.6	F1	mg/Kg		117	90 - 110		

Lab Sample ID: 880-11404-A-11-I MSD

Matrix: Solid

Analysis Batch: 19832

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	<4.95	U F1	248	284.4	F1	mg/Kg		114	90 - 110	3	20



## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 19557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-4	PH17E	Total/NA	Solid	5035	
890-1951-5	PH18E	Total/NA	Solid	5035	
890-1951-6	PH18F	Total/NA	Solid	5035	
MB 880-19557/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-19557/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-19557/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11386-A-9-B MS	Matrix Spike	Total/NA	Solid	5035	
880-11386-A-9-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 19654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-4	PH17E	Total/NA	Solid	8021B	19557
890-1951-5	PH18E	Total/NA	Solid	8021B	19557
890-1951-6	PH18F	Total/NA	Solid	8021B	19557
MB 880-19557/5-A	Method Blank	Total/NA	Solid	8021B	19557
LCS 880-19557/1-A	Lab Control Sample	Total/NA	Solid	8021B	19557
LCSD 880-19557/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	19557
880-11386-A-9-B MS	Matrix Spike	Total/NA	Solid	8021B	19557
880-11386-A-9-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	19557

## Prep Batch: 19658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-1	PH01D	Total/NA	Solid	5035	
890-1951-2	PH01E	Total/NA	Solid	5035	
890-1951-3	PH17D	Total/NA	Solid	5035	
MB 880-19658/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-19658/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-19658/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11300-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-11300-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 19659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-1	PH01D	Total/NA	Solid	8021B	19658
890-1951-2	PH01E	Total/NA	Solid	8021B	19658
890-1951-3	PH17D	Total/NA	Solid	8021B	19658
MB 880-19658/5-A	Method Blank	Total/NA	Solid	8021B	19658
LCS 880-19658/1-A	Lab Control Sample	Total/NA	Solid	8021B	19658
LCSD 880-19658/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	19658
880-11300-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	19658
880-11300-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	19658

## Analysis Batch: 19760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-1	PH01D	Total/NA	Solid	Total BTEX	
890-1951-2	PH01E	Total/NA	Solid	Total BTEX	
890-1951-3	PH17D	Total/NA	Solid	Total BTEX	
890-1951-4	PH17E	Total/NA	Solid	Total BTEX	
890-1951-5	PH18E	Total/NA	Solid	Total BTEX	
890-1951-6	PH18F	Total/NA	Solid	Total BTEX	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

## GC Semi VOA

## Prep Batch: 19728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-1	PH01D	Total/NA	Solid	8015NM Prep	
890-1951-2	PH01E	Total/NA	Solid	8015NM Prep	
890-1951-3	PH17D	Total/NA	Solid	8015NM Prep	
890-1951-4	PH17E	Total/NA	Solid	8015NM Prep	
890-1951-5	PH18E	Total/NA	Solid	8015NM Prep	
890-1951-6	PH18F	Total/NA	Solid	8015NM Prep	
MB 880-19728/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-19728/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-19728/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1951-1 MS	PH01D	Total/NA	Solid	8015NM Prep	
890-1951-1 MSD	PH01D	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 19779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-1	PH01D	Total/NA	Solid	8015B NM	19728
890-1951-2	PH01E	Total/NA	Solid	8015B NM	19728
890-1951-3	PH17D	Total/NA	Solid	8015B NM	19728
890-1951-4	PH17E	Total/NA	Solid	8015B NM	19728
890-1951-5	PH18E	Total/NA	Solid	8015B NM	19728
890-1951-6	PH18F	Total/NA	Solid	8015B NM	19728
MB 880-19728/1-A	Method Blank	Total/NA	Solid	8015B NM	19728
LCS 880-19728/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	19728
LCSD 880-19728/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	19728
890-1951-1 MS	PH01D	Total/NA	Solid	8015B NM	19728
890-1951-1 MSD	PH01D	Total/NA	Solid	8015B NM	19728

## Analysis Batch: 19855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-1	PH01D	Total/NA	Solid	8015 NM	
890-1951-2	PH01E	Total/NA	Solid	8015 NM	
890-1951-3	PH17D	Total/NA	Solid	8015 NM	
890-1951-4	PH17E	Total/NA	Solid	8015 NM	
890-1951-5	PH18E	Total/NA	Solid	8015 NM	
890-1951-6	PH18F	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 19773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-1	PH01D	Soluble	Solid	DI Leach	
890-1951-2	PH01E	Soluble	Solid	DI Leach	
890-1951-3	PH17D	Soluble	Solid	DI Leach	
890-1951-4	PH17E	Soluble	Solid	DI Leach	
890-1951-5	PH18E	Soluble	Solid	DI Leach	
890-1951-6	PH18F	Soluble	Solid	DI Leach	
MB 880-19773/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19773/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19773/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11404-A-11-H MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11404-A-11-I MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

## HPLC/IC

## Analysis Batch: 19832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-1	PH01D	Soluble	Solid	300.0	19773
890-1951-3	PH17D	Soluble	Solid	300.0	19773
890-1951-4	PH17E	Soluble	Solid	300.0	19773
890-1951-5	PH18E	Soluble	Solid	300.0	19773
890-1951-6	PH18F	Soluble	Solid	300.0	19773
MB 880-19773/1-A	Method Blank	Soluble	Solid	300.0	19773
LCS 880-19773/2-A	Lab Control Sample	Soluble	Solid	300.0	19773
LCSD 880-19773/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19773
880-11404-A-11-H MS	Matrix Spike	Soluble	Solid	300.0	19773
880-11404-A-11-I MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	19773

## Analysis Batch: 19938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1951-2	PH01E	Soluble	Solid	300.0	19773

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: PH01D

Lab Sample ID: 890-1951-1

Date Collected: 02/15/22 12:30

Matrix: Solid

Date Received: 02/15/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19658	02/17/22 08:20	KL	XEN MID
Total/NA	Analysis	8021B		1	19659	02/17/22 17:08	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	19760	02/17/22 21:03	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19855	02/18/22 19:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19728	02/17/22 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19779	02/18/22 10:24	AJ	XEN MID
Soluble	Leach	DI Leach			19773	02/17/22 21:46	CH	XEN MID
Soluble	Analysis	300.0		10	19832	02/18/22 13:35	CH	XEN MID

Client Sample ID: PH01E

Lab Sample ID: 890-1951-2

Date Collected: 02/15/22 12:35

Matrix: Solid

Date Received: 02/15/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19658	02/17/22 08:20	KL	XEN MID
Total/NA	Analysis	8021B		1	19659	02/17/22 17:28	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	19760	02/17/22 21:03	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19855	02/18/22 19:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19728	02/17/22 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19779	02/18/22 11:31	AJ	XEN MID
Soluble	Leach	DI Leach			19773	02/17/22 21:46	CH	XEN MID
Soluble	Analysis	300.0		1	19938	02/23/22 14:48	CH	XEN MID

Client Sample ID: PH17D

Lab Sample ID: 890-1951-3

Date Collected: 02/15/22 13:45

Matrix: Solid

Date Received: 02/15/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19658	02/17/22 08:20	KL	XEN MID
Total/NA	Analysis	8021B		1	19659	02/17/22 17:49	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	19760	02/17/22 21:03	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19855	02/18/22 19:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19728	02/17/22 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19779	02/18/22 11:53	AJ	XEN MID
Soluble	Leach	DI Leach			19773	02/17/22 21:46	CH	XEN MID
Soluble	Analysis	300.0		10	19832	02/18/22 14:10	CH	XEN MID

Client Sample ID: PH17E

Lab Sample ID: 890-1951-4

Date Collected: 02/15/22 14:00

Matrix: Solid

Date Received: 02/15/22 16:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19557	02/17/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19654	02/17/22 18:08	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	19760	02/17/22 21:03	AJ	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: PH17E

Date Collected: 02/15/22 14:00

Date Received: 02/15/22 16:16

## Lab Sample ID: 890-1951-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	19855	02/18/22 19:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19728	02/17/22 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19779	02/18/22 12:14	AJ	XEN MID
Soluble	Leach	DI Leach			19773	02/17/22 21:46	CH	XEN MID
Soluble	Analysis	300.0		1	19832	02/18/22 19:33	CH	XEN MID

## Client Sample ID: PH18E

Date Collected: 02/15/22 12:55

Date Received: 02/15/22 16:16

## Lab Sample ID: 890-1951-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19557	02/17/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19654	02/17/22 18:34	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	19760	02/17/22 21:03	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19855	02/18/22 19:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19728	02/17/22 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19779	02/18/22 12:35	AJ	XEN MID
Soluble	Leach	DI Leach			19773	02/17/22 21:46	CH	XEN MID
Soluble	Analysis	300.0		10	19832	02/18/22 14:28	CH	XEN MID

## Client Sample ID: PH18F

Date Collected: 02/15/22 13:35

Date Received: 02/15/22 16:16

## Lab Sample ID: 890-1951-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19557	02/17/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19654	02/17/22 19:01	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	19760	02/17/22 21:03	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19855	02/18/22 19:48	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19728	02/17/22 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19779	02/18/22 12:56	AJ	XEN MID
Soluble	Leach	DI Leach			19773	02/17/22 21:46	CH	XEN MID
Soluble	Analysis	300.0		1	19832	02/18/22 19:42	CH	XEN MID

## Laboratory References:

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

Eurofins Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1951-1  
SDG: 31403236.001.0129.35.02

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.

Job ID: 890-1951-1

Project/Site: Remuda Basin State #2

SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1951-1	PH01D	Solid	02/15/22 12:30	02/15/22 16:16	5
890-1951-2	PH01E	Solid	02/15/22 12:35	02/15/22 16:16	6
890-1951-3	PH17D	Solid	02/15/22 13:45	02/15/22 16:16	5
890-1951-4	PH17E	Solid	02/15/22 14:00	02/15/22 16:16	6
890-1951-5	PH18E	Solid	02/15/22 12:55	02/15/22 16:16	6
890-1951-6	PH18F	Solid	02/15/22 13:35	02/15/22 16:16	7





## Chain of Custody

**Work Order No**

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  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 291-1111  
Hobbs, NM (575-392-7550)

[www.xenco.com](http://www.xenco.com)

Page 1 of 1



Project Manager:	Aimee Cole	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:	Avrada, Colorado 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:	720.384.7365	Email:	commer.shore@wsp.com, Aimee.cole@wsp.com

Work Order Comments				
Program:	UST/PST	<input type="checkbox"/> PRP	<input type="checkbox"/> Brownfields	<input type="checkbox"/> RC <input type="checkbox"/> Superfund
State of Project:				
Reporting Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> PST/UST	<input type="checkbox"/> RRP	<input type="checkbox"/> Level IV
Deliverables:	EDD	<input type="checkbox"/> ADAPT	<input type="checkbox"/> Other:	

[illegible][illegible]

Circle Method(s) and Metal(s) to be analyzed		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 SiO <sub>2</sub> Na Sr Ti Sn U V Zn
TCLP / SPLP	6010: 8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag	Ti 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
		2-15-22 1418			

Revised Date 05/14/18 Rev. 2018

Eurofins Carlebad

1089 N Canal St.  
Carlsbad, NM 86220  
Phone. 575-988-3199 Fax 575-988-3199

## Chain of Custody Record



### Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab P.M.	Carrier Tracking No(s)	COC No									
Client Contact:	Shipping/Receiving	Phone	Kramer Jessica E-Mail: jessica.kramer@eurofinset.com	State of Origin: New Mexico	890-628 1									
Company: Eurofins Environment Testing South Cent		Accreditations Required (See note): NELAP - Louisiana, NELAP - Texas		Page: 1 of 1	890-1951-1									
Address: 1211 W Florida Ave.		Due Date Requested 2/18/2022	Analysis Requested											
City: Midland	TAT Requested (days):													
State, Zip: TX, 79701	PO #:													
Phone: 432-704-5440(Tel)	WQ #:													
Email:	Project #: 89000004													
Project Name: Remuda Basin State #2	SSOV#:													
Site:														
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=Comp, G=grab)</b>	<b>Matrix (W=Water, S=solid, O=wast/sludg, B=leachate, A=Air)</b>	<b>Field Filtered Sample (Yes or No)</b>	<b>Perform MS/MSD (Yes or No)</b>	<b>8015MOD_NM/8015NM_S_Prep (MOD) Full TPH</b>	<b>8015MOD_Calc</b>	<b>300_ORGFQM_28D/DI_LEACH Chloride</b>	<b>8021B/5035FP_Calc (MOD) BTEX</b>	<b>Total_BTEX_GCV</b>	<b>Total Number of containers</b>	<b>Special Instructions/Note:</b>
PH01D (890-1951-1)		2/15/22	12 30		Solid		X	X	X	X	X		1	
PH01E (890-1951-2)		2/15/22	12 35		Solid		X	X	X	X	X		1	
PH17D (890-1951-3)		2/15/22	13 45		Solid		X	X	X	X	X		1	
PH17E (890-1951-4)		2/15/22	14 00		Solid		X	X	X	X	X		1	
PH18E (890-1951-5)		2/15/22	12 55		Solid		X	X	X	X	X		1	
PH18F (890-1951-6)		2/15/22	13 35		Solid		X	X	X	X	X		1	
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out sub-contract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/method being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other institutions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.														
<b>Possible Hazard Identification</b>		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>												
Uncollected		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months												
Deliverable Requested I II III IV Other (specify)		Special Instructions/QC Requirements												
Empty Kit Relinquished by:		Date	Time											
Relinquished by: <i>Due 2-16-22</i>		Date/Time:	Received by: <i>[Signature]</i>											
Relinquished by:		Date/Time:	Received by: <i>[Signature]</i>											
Relinquished by:		Date/Time:	Received by: <i>[Signature]</i>											
Custody Seals Intact: Δ Yes Δ No		Custody Seal No	Cooler Temperature(s) °C and Other Remarks:											

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1951-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1951****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: 890-1951-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1951****List Number: 2****Creator: Kramer, Jessica****List Source: Eurofins Midland****List Creation: 02/17/22 01:10 PM**

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



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1961-1

Laboratory Sample Delivery Group: 31403236.001.0129.35.02

Client Project/Site: Remuda Basin State #2

Revision: 1

#### For:

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

Attn: Aimee Cole

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:  
2/28/2022 4:59:57 PM

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

#### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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



Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Laboratory Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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

## GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

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

## Glossary

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

Eurofins Carlsbad

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

### Job ID: 890-1961-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

#### Job Narrative 890-1961-1

#### REVISION

The report being provided is a revision of the original report sent on 2/22/2022. The report (revision 1) is being revised due to Per client email, requesting chloride re run on sample SS22.

Report revision history

#### Receipt

The samples were received on 2/16/2022 4:22 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

#### GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW21 (890-1961-6), SW22 (890-1961-7), SW23 (890-1961-8), SW24 (890-1961-9), SW25 (890-1961-10), SW26 (890-1961-11), SW27 (890-1961-12) and SW10 (890-1961-13). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-19708 and analytical batch 880-19796 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### GC Semi VOA

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-19786 and analytical batch 880-19782 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-19786/2-A), (LCSD 880-19786/3-A), (890-1957-A-1-C MS) and (890-1957-A-1-D MSD). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-19786 and analytical batch 880-19782 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

#### HPLC/IC

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



## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW16

Lab Sample ID: 890-1961-1

Date Collected: 02/16/22 13:45

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg	-	02/18/22 08:00	02/19/22 01:48	1
Toluene	<0.00202	U	0.00202	mg/Kg	-	02/18/22 08:00	02/19/22 01:48	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg	-	02/18/22 08:00	02/19/22 01:48	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg	-	02/18/22 08:00	02/19/22 01:48	1
o-Xylene	<0.00202	U	0.00202	mg/Kg	-	02/18/22 08:00	02/19/22 01:48	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg	-	02/18/22 08:00	02/19/22 01:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	02/18/22 08:00	02/19/22 01:48	1
1,4-Difluorobenzene (Surr)	93		70 - 130	02/18/22 08:00	02/19/22 01:48	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	-		02/21/22 19:46	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	-		02/18/22 17:26	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 ** *1	50.0	mg/Kg	-	02/18/22 08:34	02/18/22 11:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U ** *1	50.0	mg/Kg	-	02/18/22 08:34	02/18/22 11:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg	-	02/18/22 08:34	02/18/22 11:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	02/18/22 08:34	02/18/22 11:52	1
o-Terphenyl	85		70 - 130	02/18/22 08:34	02/18/22 11:52	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66.9		4.98	mg/Kg	-		02/18/22 19:50	1

Client Sample ID: SW17

Lab Sample ID: 890-1961-2

Date Collected: 02/16/22 09:55

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg	-	02/18/22 08:00	02/19/22 02:08	1
Toluene	<0.00199	U	0.00199	mg/Kg	-	02/18/22 08:00	02/19/22 02:08	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg	-	02/18/22 08:00	02/19/22 02:08	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg	-	02/18/22 08:00	02/19/22 02:08	1
o-Xylene	<0.00199	U	0.00199	mg/Kg	-	02/18/22 08:00	02/19/22 02:08	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg	-	02/18/22 08:00	02/19/22 02:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	02/18/22 08:00	02/19/22 02:08	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW17

Lab Sample ID: 890-1961-2

Date Collected: 02/16/22 09:55

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	97		70 - 130	02/18/22 08:00	02/19/22 02:08	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			02/21/22 19:46	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			02/18/22 17:26	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 ** *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 12:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U ** *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 12:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 12:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130			02/18/22 08:34	02/18/22 12:13	1
o-Terphenyl	91		70 - 130			02/18/22 08:34	02/18/22 12:13	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46.6		5.00	mg/Kg			02/18/22 20:09	1

Client Sample ID: SW18

Lab Sample ID: 890-1961-3

Date Collected: 02/16/22 14:20

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 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		02/18/22 08:00	02/19/22 02:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 02:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 02:29	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/18/22 08:00	02/19/22 02:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 02:29	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/18/22 08:00	02/19/22 02:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	02/18/22 08:00	02/19/22 02:29	1
1,4-Difluorobenzene (Surr)	90		70 - 130	02/18/22 08:00	02/19/22 02:29	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			02/21/22 19:46	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			02/18/22 17:26	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW18

## Lab Sample ID: 890-1961-3

Date Collected: 02/16/22 14:20

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

## 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 ** *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 12:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U ** *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 12:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 12:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130			02/18/22 08:34	02/18/22 12:34	1
o-Terphenyl	91		70 - 130			02/18/22 08:34	02/18/22 12:34	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41.2		4.95	mg/Kg			02/18/22 20:15	1

## Client Sample ID: SW19

## Lab Sample ID: 890-1961-4

Date Collected: 02/16/22 14:25

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 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		02/18/22 08:00	02/19/22 02:49	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/18/22 08:00	02/19/22 02:49	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/18/22 08:00	02/19/22 02:49	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/18/22 08:00	02/19/22 02:49	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/18/22 08:00	02/19/22 02:49	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/18/22 08:00	02/19/22 02:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			02/18/22 08:00	02/19/22 02:49	1
1,4-Difluorobenzene (Surr)	70		70 - 130			02/18/22 08:00	02/19/22 02:49	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			02/21/22 19:46	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			02/18/22 17:26	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 ** *1	49.9	mg/Kg		02/18/22 08:34	02/18/22 12:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U ** *1	49.9	mg/Kg		02/18/22 08:34	02/18/22 12:55	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/18/22 08:34	02/18/22 12:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130			02/18/22 08:34	02/18/22 12:55	1
o-Terphenyl	94		70 - 130			02/18/22 08:34	02/18/22 12:55	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW19

Date Collected: 02/16/22 14:25

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

## Lab Sample ID: 890-1961-4

Matrix: Solid

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80.6		5.02	mg/Kg			02/18/22 20:34	1

## Client Sample ID: SW20

Date Collected: 02/16/22 11:00

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

## Lab Sample ID: 890-1961-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 08:52	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 08:52	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 08:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/18/22 08:00	02/19/22 08:52	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 08:52	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/18/22 08:00	02/19/22 08:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	144	S1+	70 - 130			02/18/22 08:00	02/19/22 08:52	1
1,4-Difluorobenzene (Surr)	89		70 - 130			02/18/22 08:00	02/19/22 08:52	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			02/21/22 19:46	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			02/18/22 17:26	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 *+ *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 13:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+ *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 13:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 13:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130			02/18/22 08:34	02/18/22 13:15	1
o-Terphenyl	78		70 - 130			02/18/22 08:34	02/18/22 13:15	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.3		4.99	mg/Kg			02/20/22 12:22	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW21

Lab Sample ID: 890-1961-6

Date Collected: 02/16/22 14:00

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 09:20	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 09:20	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 09:20	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/18/22 08:00	02/19/22 09:20	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 09:20	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/18/22 08:00	02/19/22 09:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	146	S1+	70 - 130	02/18/22 08:00	02/19/22 09:20	1
1,4-Difluorobenzene (Surr)	93		70 - 130	02/18/22 08:00	02/19/22 09:20	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			02/21/22 19:46	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			02/18/22 17:26	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 ** *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 13:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U ** *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 13:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	02/18/22 08:34	02/18/22 13:36	1
o-Terphenyl	98		70 - 130	02/18/22 08:34	02/18/22 13:36	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	555		25.0	mg/Kg			02/18/22 20:47	5

Client Sample ID: SW22

Lab Sample ID: 890-1961-7

Date Collected: 02/16/22 14:05

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/18/22 08:00	02/19/22 09:49	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/18/22 08:00	02/19/22 09:49	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/18/22 08:00	02/19/22 09:49	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		02/18/22 08:00	02/19/22 09:49	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/18/22 08:00	02/19/22 09:49	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		02/18/22 08:00	02/19/22 09:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	142	S1+	70 - 130	02/18/22 08:00	02/19/22 09:49	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW22

Lab Sample ID: 890-1961-7

Date Collected: 02/16/22 14:05

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	87		70 - 130	02/18/22 08:00	02/19/22 09:49	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			02/21/22 19:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	72.1		50.0	mg/Kg			02/18/22 17:26	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 *+ *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 13:57	1
Diesel Range Organics (Over C10-C28)	72.1	*+ *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 13:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 13:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130			02/18/22 08:34	02/18/22 13:57	1
o-Terphenyl	89		70 - 130			02/18/22 08:34	02/18/22 13:57	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	455		24.9	mg/Kg			02/25/22 16:50	5

Client Sample ID: SW23

Lab Sample ID: 890-1961-8

Date Collected: 02/16/22 11:05

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 10:17	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 10:17	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 10:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/18/22 08:00	02/19/22 10:17	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 10:17	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/18/22 08:00	02/19/22 10:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130	02/18/22 08:00	02/19/22 10:17	1
1,4-Difluorobenzene (Surr)	89		70 - 130	02/18/22 08:00	02/19/22 10:17	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			02/21/22 19:46	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			02/18/22 17:26	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW23

Date Collected: 02/16/22 11:05

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

## Lab Sample ID: 890-1961-8

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 ** *1	49.9	mg/Kg		02/18/22 08:34	02/18/22 14:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U ** *1	49.9	mg/Kg		02/18/22 08:34	02/18/22 14:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/18/22 08:34	02/18/22 14:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130			02/18/22 08:34	02/18/22 14:18	1
o-Terphenyl	89		70 - 130			02/18/22 08:34	02/18/22 14:18	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	304		5.03	mg/Kg			02/20/22 12:29	1

## Client Sample ID: SW24

Date Collected: 02/16/22 12:05

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

## Lab Sample ID: 890-1961-9

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 10:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 10:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 10:45	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/18/22 08:00	02/19/22 10:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 10:45	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/18/22 08:00	02/19/22 10:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	139	S1+	70 - 130			02/18/22 08:00	02/19/22 10:45	1
1,4-Difluorobenzene (Surr)	91		70 - 130			02/18/22 08:00	02/19/22 10:45	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			02/21/22 19:46	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			02/18/22 17:26	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 ** *1	49.9	mg/Kg		02/18/22 08:34	02/18/22 14:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U ** *1	49.9	mg/Kg		02/18/22 08:34	02/18/22 14:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/18/22 08:34	02/18/22 14:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130			02/18/22 08:34	02/18/22 14:38	1
o-Terphenyl	94		70 - 130			02/18/22 08:34	02/18/22 14:38	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW24

Date Collected: 02/16/22 12:05

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

## Lab Sample ID: 890-1961-9

Matrix: Solid

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	224		24.9	mg/Kg			02/18/22 21:06	5

## Client Sample ID: SW25

Date Collected: 02/16/22 12:00

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

## Lab Sample ID: 890-1961-10

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 11:13	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 11:13	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 11:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/18/22 08:00	02/19/22 11:13	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/18/22 08:00	02/19/22 11:13	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/18/22 08:00	02/19/22 11:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	146	S1+	70 - 130			02/18/22 08:00	02/19/22 11:13	1
1,4-Difluorobenzene (Surr)	77		70 - 130			02/18/22 08:00	02/19/22 11:13	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			02/21/22 19:46	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			02/18/22 17:26	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 *+ *1	49.9	mg/Kg		02/18/22 08:34	02/18/22 15:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+ *1	49.9	mg/Kg		02/18/22 08:34	02/18/22 15:19	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/18/22 08:34	02/18/22 15:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130			02/18/22 08:34	02/18/22 15:19	1
o-Terphenyl	98		70 - 130			02/18/22 08:34	02/18/22 15:19	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	292		5.00	mg/Kg			02/20/22 12:35	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW26

Lab Sample ID: 890-1961-11

Date Collected: 02/16/22 11:40

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 11:40	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 11:40	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 11:40	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		02/18/22 08:00	02/19/22 11:40	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 11:40	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		02/18/22 08:00	02/19/22 11:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130	02/18/22 08:00	02/19/22 11:40	1
1,4-Difluorobenzene (Surr)	91		70 - 130	02/18/22 08:00	02/19/22 11:40	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			02/21/22 19:46	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			02/18/22 17:26	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 ** *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 15:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U ** *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 15:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 15:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	02/18/22 08:34	02/18/22 15:40	1
o-Terphenyl	98		70 - 130	02/18/22 08:34	02/18/22 15:40	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	91.3		5.00	mg/Kg			02/19/22 06:45	1

Client Sample ID: SW27

Lab Sample ID: 890-1961-12

Date Collected: 02/16/22 13:25

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 12:08	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 12:08	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 12:08	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		02/18/22 08:00	02/19/22 12:08	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 12:08	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		02/18/22 08:00	02/19/22 12:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	150	S1+	70 - 130	02/18/22 08:00	02/19/22 12:08	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW27

Lab Sample ID: 890-1961-12

Date Collected: 02/16/22 13:25

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	74		70 - 130	02/18/22 08:00	02/19/22 12:08	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			02/21/22 19:46	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			02/18/22 17:26	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 *+ *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 16:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+ *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 16:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 16:01	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1-Chlorooctane	101		70 - 130			02/18/22 08:34	02/18/22 16:01	1
o-Terphenyl	103		70 - 130			02/18/22 08:34	02/18/22 16:01	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	206		5.00	mg/Kg			02/19/22 07:01	1

Client Sample ID: SW10

Lab Sample ID: 890-1961-13

Date Collected: 02/16/22 14:15

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 12:34	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 12:34	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 12:34	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		02/18/22 08:00	02/19/22 12:34	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/18/22 08:00	02/19/22 12:34	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		02/18/22 08:00	02/19/22 12:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	156	S1+	70 - 130	02/18/22 08:00	02/19/22 12:34	1
1,4-Difluorobenzene (Surr)	76		70 - 130	02/18/22 08:00	02/19/22 12:34	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			02/21/22 19:46	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			02/18/22 17:26	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW10

Lab Sample ID: 890-1961-13

Date Collected: 02/16/22 14:15

Matrix: Solid

Date Received: 02/16/22 16:22

Sample Depth: 0 - 4

## 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 *+ *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 16:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U *+ *1	50.0	mg/Kg		02/18/22 08:34	02/18/22 16:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 16:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130			02/18/22 08:34	02/18/22 16:21	1
o-Terphenyl	90		70 - 130			02/18/22 08:34	02/18/22 16:21	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	329		25.0	mg/Kg			02/19/22 07:17	5

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
880-11270-A-1-F MS	Matrix Spike	146 S1+	96
880-11270-A-1-G MSD	Matrix Spike Duplicate	132 S1+	88
880-11436-A-2-C MS	Matrix Spike	132 S1+	97
880-11436-A-2-D MSD	Matrix Spike Duplicate	155 S1+	44 S1-
890-1961-1	SW16	111	93
890-1961-2	SW17	120	97
890-1961-3	SW18	89	90
890-1961-4	SW19	116	70
890-1961-5	SW20	144 S1+	89
890-1961-6	SW21	146 S1+	93
890-1961-7	SW22	142 S1+	87
890-1961-8	SW23	138 S1+	89
890-1961-9	SW24	139 S1+	91
890-1961-10	SW25	146 S1+	77
890-1961-11	SW26	140 S1+	91
890-1961-12	SW27	150 S1+	74
890-1961-13	SW10	156 S1+	76
LCS 880-19696/1-A	Lab Control Sample	112	99
LCS 880-19707/1-A	Lab Control Sample	108	98
LCS 880-19708/1-A	Lab Control Sample	122	77
LCSD 880-19696/2-A	Lab Control Sample Dup	113	91
LCSD 880-19707/2-A	Lab Control Sample Dup	109	96
LCSD 880-19708/2-A	Lab Control Sample Dup	130	83
MB 880-19684/5-A	Method Blank	101	78
MB 880-19696/5-A	Method Blank	116	89
MB 880-19707/5-A	Method Blank	119	98
MB 880-19708/5-A	Method Blank	102	77

## 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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
890-1957-A-1-C MS	Matrix Spike	71	66 S1-
890-1957-A-1-D MSD	Matrix Spike Duplicate	68 S1-	62 S1-
890-1961-1	SW16	83	85
890-1961-2	SW17	90	91
890-1961-3	SW18	88	91
890-1961-4	SW19	92	94
890-1961-5	SW20	79	78
890-1961-6	SW21	100	98
890-1961-7	SW22	90	89
890-1961-8	SW23	88	89
890-1961-9	SW24	94	94
890-1961-10	SW25	98	98

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## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1961-11	SW26	98	98
890-1961-12	SW27	101	103
890-1961-13	SW10	88	90
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

### 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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-19786/2-A	Lab Control Sample	141 S1+	140 S1+
LCSD 880-19786/3-A	Lab Control Sample Dup	175 S1+	174 S1+
MB 880-19786/1-A	Method Blank	83	87
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-19684/5-A

Matrix: Solid

Analysis Batch: 19796

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19684

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/17/22 10:40	02/18/22 17:18	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/17/22 10:40	02/18/22 17:18	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/17/22 10:40	02/18/22 17:18	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/17/22 10:40	02/18/22 17:18	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/17/22 10:40	02/18/22 17:18	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/17/22 10:40	02/18/22 17:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	02/17/22 10:40	02/18/22 17:18	1
1,4-Difluorobenzene (Surr)	78		70 - 130	02/17/22 10:40	02/18/22 17:18	1

Lab Sample ID: MB 880-19696/5-A

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19696

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/18/22 07:00	02/18/22 12:41	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/18/22 07:00	02/18/22 12:41	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/18/22 07:00	02/18/22 12:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/18/22 07:00	02/18/22 12:41	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/18/22 07:00	02/18/22 12:41	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/18/22 07:00	02/18/22 12:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	02/18/22 07:00	02/18/22 12:41	1
1,4-Difluorobenzene (Surr)	89		70 - 130	02/18/22 07:00	02/18/22 12:41	1

Lab Sample ID: LCS 880-19696/1-A

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19696

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09002		mg/Kg		90	70 - 130
Toluene	0.100	0.09048		mg/Kg		90	70 - 130
Ethylbenzene	0.100	0.1034		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	0.200	0.1884		mg/Kg		94	70 - 130
o-Xylene	0.100	0.09890		mg/Kg		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-19696/2-A

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19696

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08948		mg/Kg		89	70 - 130	1	35

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCSD 880-19696/2-A

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19696

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.09333		mg/Kg		93	70 - 130	3	35
Ethylbenzene	0.100	0.1044		mg/Kg		104	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1926		mg/Kg		96	70 - 130	2	35
o-Xylene	0.100	0.09354		mg/Kg		94	70 - 130	6	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

Lab Sample ID: 880-11436-A-2-C MS

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19696

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.101	0.07205		mg/Kg		71	70 - 130
Toluene	<0.00199	U F1 F2	0.101	0.07874		mg/Kg		78	70 - 130
Ethylbenzene	<0.00199	U	0.101	0.09275		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.202	0.1741		mg/Kg		86	70 - 130
o-Xylene	<0.00199	U F1 F2	0.101	0.09651		mg/Kg		96	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 880-11436-A-2-D MSD

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19696

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	0.08192		mg/Kg		82	70 - 130	13	35
Toluene	<0.00199	U F1 F2	0.100	0.04688	F1 F2	mg/Kg		47	70 - 130	51	35
Ethylbenzene	<0.00199	U	0.100	0.08108		mg/Kg		81	70 - 130	13	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.200	0.1063	F1 F2	mg/Kg		53	70 - 130	48	35
o-Xylene	<0.00199	U F1 F2	0.100	0.2186	F1 F2	mg/Kg		219	70 - 130	77	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	155	S1+	70 - 130
1,4-Difluorobenzene (Surr)	44	S1-	70 - 130

Lab Sample ID: MB 880-19707/5-A

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19707

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 00:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 00:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 00:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/18/22 08:00	02/19/22 00:17	1

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: MB 880-19707/5-A

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19707

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 00:17	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/18/22 08:00	02/19/22 00:17	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130			02/18/22 08:00	02/19/22 00:17	1
1,4-Difluorobenzene (Surr)	98		70 - 130			02/18/22 08:00	02/19/22 00:17	1

Lab Sample ID: LCS 880-19707/1-A

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19707

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08860		mg/Kg		89	70 - 130
Toluene	0.100	0.1018		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.09205		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	0.200	0.1862		mg/Kg		93	70 - 130
o-Xylene	0.100	0.08996		mg/Kg		90	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	108		70 - 130				
1,4-Difluorobenzene (Surr)	98		70 - 130				

Lab Sample ID: LCSD 880-19707/2-A

Matrix: Solid

Analysis Batch: 19783

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19707

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.08442		mg/Kg		84	70 - 130	5	35
Toluene	0.100	0.09326		mg/Kg		93	70 - 130	9	35
Ethylbenzene	0.100	0.09408		mg/Kg		94	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1842		mg/Kg		92	70 - 130	1	35
o-Xylene	0.100	0.08941		mg/Kg		89	70 - 130	1	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	109		70 - 130						
1,4-Difluorobenzene (Surr)	96		70 - 130						

Lab Sample ID: MB 880-19708/5-A

Matrix: Solid

Analysis Batch: 19796

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19708

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 07:56	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 07:56	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 07:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/18/22 08:00	02/19/22 07:56	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/18/22 08:00	02/19/22 07:56	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/18/22 08:00	02/19/22 07:56	1

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	02/18/22 08:00	02/19/22 07:56	1
1,4-Difluorobenzene (Surr)	77		70 - 130	02/18/22 08:00	02/19/22 07:56	1

Lab Sample ID: LCS 880-19708/1-A

Matrix: Solid

Analysis Batch: 19796

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19708

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08444		mg/Kg		84	70 - 130
Toluene	0.100	0.07966		mg/Kg		80	70 - 130
Ethylbenzene	0.100	0.07828		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	0.200	0.1613		mg/Kg		81	70 - 130
o-Xylene	0.100	0.08548		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	77		70 - 130

Lab Sample ID: LCSD 880-19708/2-A

Matrix: Solid

Analysis Batch: 19796

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19708

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09801		mg/Kg		98	70 - 130	15	35
Toluene	0.100	0.09551		mg/Kg		96	70 - 130	18	35
Ethylbenzene	0.100	0.09617		mg/Kg		96	70 - 130	21	35
m-Xylene & p-Xylene	0.200	0.1974		mg/Kg		99	70 - 130	20	35
o-Xylene	0.100	0.1056		mg/Kg		106	70 - 130	21	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	130		70 - 130
1,4-Difluorobenzene (Surr)	83		70 - 130

Lab Sample ID: 880-11270-A-1-F MS

Matrix: Solid

Analysis Batch: 19796

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19708

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F1 F2	0.100	0.009265	F1	mg/Kg		9	70 - 130
Toluene	<0.00200	U F1 F2	0.100	0.007606	F1	mg/Kg		8	70 - 130
Ethylbenzene	<0.00200	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.200	0.01782	F1	mg/Kg		9	70 - 130
o-Xylene	<0.00200	U F1 F2	0.100	0.01109	F1	mg/Kg		11	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	146	S1+	70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: 880-11270-A-1-G MSD

Matrix: Solid

Analysis Batch: 19796

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19708

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.0990	<0.00198	U F1 F2	mg/Kg		2	70 - 130	142	35
Toluene	<0.00200	U F1 F2	0.0990	0.01462	F1 F2	mg/Kg		15	70 - 130	63	35
Ethylbenzene	<0.00200	U F1	0.0990	<0.00198	U F1	mg/Kg		0.7	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.198	0.02845	F1 F2	mg/Kg		14	70 - 130	46	35
o-Xylene	<0.00200	U F1 F2	0.0990	0.01605	F1 F2	mg/Kg		16	70 - 130	37	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

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

Lab Sample ID: MB 880-19786/1-A

Matrix: Solid

Analysis Batch: 19782

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19786

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		02/18/22 08:34	02/18/22 09:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 09:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/18/22 08:34	02/18/22 09:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	02/18/22 08:34	02/18/22 09:43	1
o-Terphenyl	87		70 - 130	02/18/22 08:34	02/18/22 09:43	1

Lab Sample ID: LCS 880-19786/2-A

Matrix: Solid

Analysis Batch: 19782

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19786

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1056		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1360	*+	mg/Kg		136	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	141	S1+	70 - 130
o-Terphenyl	140	S1+	70 - 130

Lab Sample ID: LCSD 880-19786/3-A

Matrix: Solid

Analysis Batch: 19782

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19786

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1327	*+ *1	mg/Kg		133	70 - 130	23	20

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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

Lab Sample ID: LCSD 880-19786/3-A

Matrix: Solid

Analysis Batch: 19782

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19786

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	1000	1708	*+ *1	mg/Kg		171	70 - 130	23	20
	LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	175	S1+	70 - 130						
o-Terphenyl	174	S1+	70 - 130						

Lab Sample ID: 890-1957-A-1-C MS

Matrix: Solid

Analysis Batch: 19782

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19786

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+ *1	1000	1006		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U *+ *1	1000	1197		mg/Kg		120	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	71		70 - 130								
o-Terphenyl	66	S1-	70 - 130								

Lab Sample ID: 890-1957-A-1-D MSD

Matrix: Solid

Analysis Batch: 19782

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19786

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 *+ *1	998	948.8		mg/Kg		93	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<50.0	U *+ *1	998	1145		mg/Kg		115	70 - 130	4	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	68	S1-	70 - 130								
o-Terphenyl	62	S1-	70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-19766/1-A

Matrix: Solid

Analysis Batch: 19837

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			02/18/22 17:26	1

Lab Sample ID: LCS 880-19766/2-A

Matrix: Solid

Analysis Batch: 19837

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	262.1		mg/Kg		105	90 - 110		

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 880-19766/3-A

Matrix: Solid

Analysis Batch: 19837

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	266.7		mg/Kg		107	90 - 110	2	20

Lab Sample ID: 890-1961-1 MS

Matrix: Solid

Analysis Batch: 19837

Client Sample ID: SW16

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	66.9		249	314.2		mg/Kg		99	90 - 110		

Lab Sample ID: 890-1961-1 MSD

Matrix: Solid

Analysis Batch: 19837

Client Sample ID: SW16

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	66.9		249	318.0		mg/Kg		101	90 - 110	1	20

Lab Sample ID: MB 880-19774/1-A

Matrix: Solid

Analysis Batch: 19872

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			02/18/22 23:07	1

Lab Sample ID: LCS 880-19774/2-A

Matrix: Solid

Analysis Batch: 19872

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	244.4		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-19774/3-A

Matrix: Solid

Analysis Batch: 19872

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	244.2		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 880-11428-A-3-H MS

Matrix: Solid

Analysis Batch: 19872

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	7.65		252	248.1		mg/Kg		95	90 - 110		

Lab Sample ID: 880-11428-A-3-I MSD

Matrix: Solid

Analysis Batch: 19872

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	7.65		252	248.4		mg/Kg		96	90 - 110	0	20

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20129/1-A

Matrix: Solid

Analysis Batch: 20336

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			02/25/22 19:10	1

Lab Sample ID: LCS 880-20129/2-A

Matrix: Solid

Analysis Batch: 20336

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	258.8		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-20129/3-A

Matrix: Solid

Analysis Batch: 20336

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	265.2		mg/Kg		106	90 - 110	2	20

Lab Sample ID: 880-11518-A-6-F MS

Matrix: Solid

Analysis Batch: 20336

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	25.3		250	295.2		mg/Kg		108	90 - 110

Lab Sample ID: 880-11518-A-6-G MSD

Matrix: Solid

Analysis Batch: 20336

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	25.3		250	288.3		mg/Kg		105	90 - 110	2	20

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Prep Batch: 19684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-19684/5-A	Method Blank	Total/NA	Solid	5035	

## Prep Batch: 19696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-19696/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-19696/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-19696/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11436-A-2-C MS	Matrix Spike	Total/NA	Solid	5035	
880-11436-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Prep Batch: 19707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-1	SW16	Total/NA	Solid	5035	
890-1961-2	SW17	Total/NA	Solid	5035	
890-1961-3	SW18	Total/NA	Solid	5035	
890-1961-4	SW19	Total/NA	Solid	5035	
MB 880-19707/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-19707/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-19707/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

## Prep Batch: 19708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-5	SW20	Total/NA	Solid	5035	
890-1961-6	SW21	Total/NA	Solid	5035	
890-1961-7	SW22	Total/NA	Solid	5035	
890-1961-8	SW23	Total/NA	Solid	5035	
890-1961-9	SW24	Total/NA	Solid	5035	
890-1961-10	SW25	Total/NA	Solid	5035	
890-1961-11	SW26	Total/NA	Solid	5035	
890-1961-12	SW27	Total/NA	Solid	5035	
890-1961-13	SW10	Total/NA	Solid	5035	
MB 880-19708/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-19708/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-19708/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11270-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
880-11270-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 19783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-1	SW16	Total/NA	Solid	8021B	19707
890-1961-2	SW17	Total/NA	Solid	8021B	19707
890-1961-3	SW18	Total/NA	Solid	8021B	19707
890-1961-4	SW19	Total/NA	Solid	8021B	19707
MB 880-19696/5-A	Method Blank	Total/NA	Solid	8021B	19696
MB 880-19707/5-A	Method Blank	Total/NA	Solid	8021B	19707
LCS 880-19696/1-A	Lab Control Sample	Total/NA	Solid	8021B	19696
LCS 880-19707/1-A	Lab Control Sample	Total/NA	Solid	8021B	19707
LCSD 880-19696/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	19696
LCSD 880-19707/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	19707
880-11436-A-2-C MS	Matrix Spike	Total/NA	Solid	8021B	19696
880-11436-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	19696

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## GC VOA

## Analysis Batch: 19796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-5	SW20	Total/NA	Solid	8021B	19708
890-1961-6	SW21	Total/NA	Solid	8021B	19708
890-1961-7	SW22	Total/NA	Solid	8021B	19708
890-1961-8	SW23	Total/NA	Solid	8021B	19708
890-1961-9	SW24	Total/NA	Solid	8021B	19708
890-1961-10	SW25	Total/NA	Solid	8021B	19708
890-1961-11	SW26	Total/NA	Solid	8021B	19708
890-1961-12	SW27	Total/NA	Solid	8021B	19708
890-1961-13	SW10	Total/NA	Solid	8021B	19708
MB 880-19684/5-A	Method Blank	Total/NA	Solid	8021B	19684
MB 880-19708/5-A	Method Blank	Total/NA	Solid	8021B	19708
LCS 880-19708/1-A	Lab Control Sample	Total/NA	Solid	8021B	19708
LCSD 880-19708/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	19708
880-11270-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	19708
880-11270-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	19708

## Analysis Batch: 19998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-1	SW16	Total/NA	Solid	Total BTEX	
890-1961-2	SW17	Total/NA	Solid	Total BTEX	
890-1961-3	SW18	Total/NA	Solid	Total BTEX	
890-1961-4	SW19	Total/NA	Solid	Total BTEX	
890-1961-5	SW20	Total/NA	Solid	Total BTEX	
890-1961-6	SW21	Total/NA	Solid	Total BTEX	
890-1961-7	SW22	Total/NA	Solid	Total BTEX	
890-1961-8	SW23	Total/NA	Solid	Total BTEX	
890-1961-9	SW24	Total/NA	Solid	Total BTEX	
890-1961-10	SW25	Total/NA	Solid	Total BTEX	
890-1961-11	SW26	Total/NA	Solid	Total BTEX	
890-1961-12	SW27	Total/NA	Solid	Total BTEX	
890-1961-13	SW10	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 19782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-1	SW16	Total/NA	Solid	8015B NM	19786
890-1961-2	SW17	Total/NA	Solid	8015B NM	19786
890-1961-3	SW18	Total/NA	Solid	8015B NM	19786
890-1961-4	SW19	Total/NA	Solid	8015B NM	19786
890-1961-5	SW20	Total/NA	Solid	8015B NM	19786
890-1961-6	SW21	Total/NA	Solid	8015B NM	19786
890-1961-7	SW22	Total/NA	Solid	8015B NM	19786
890-1961-8	SW23	Total/NA	Solid	8015B NM	19786
890-1961-9	SW24	Total/NA	Solid	8015B NM	19786
890-1961-10	SW25	Total/NA	Solid	8015B NM	19786
890-1961-11	SW26	Total/NA	Solid	8015B NM	19786
890-1961-12	SW27	Total/NA	Solid	8015B NM	19786
890-1961-13	SW10	Total/NA	Solid	8015B NM	19786
MB 880-19786/1-A	Method Blank	Total/NA	Solid	8015B NM	19786
LCS 880-19786/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	19786

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## GC Semi VOA (Continued)

## Analysis Batch: 19782 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-19786/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	19786
890-1957-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	19786
890-1957-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	19786

## Prep Batch: 19786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-1	SW16	Total/NA	Solid	8015NM Prep	
890-1961-2	SW17	Total/NA	Solid	8015NM Prep	
890-1961-3	SW18	Total/NA	Solid	8015NM Prep	
890-1961-4	SW19	Total/NA	Solid	8015NM Prep	
890-1961-5	SW20	Total/NA	Solid	8015NM Prep	
890-1961-6	SW21	Total/NA	Solid	8015NM Prep	
890-1961-7	SW22	Total/NA	Solid	8015NM Prep	
890-1961-8	SW23	Total/NA	Solid	8015NM Prep	
890-1961-9	SW24	Total/NA	Solid	8015NM Prep	
890-1961-10	SW25	Total/NA	Solid	8015NM Prep	
890-1961-11	SW26	Total/NA	Solid	8015NM Prep	
890-1961-12	SW27	Total/NA	Solid	8015NM Prep	
890-1961-13	SW10	Total/NA	Solid	8015NM Prep	
MB 880-19786/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-19786/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-19786/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1957-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1957-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 19843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-1	SW16	Total/NA	Solid	8015 NM	
890-1961-2	SW17	Total/NA	Solid	8015 NM	
890-1961-3	SW18	Total/NA	Solid	8015 NM	
890-1961-4	SW19	Total/NA	Solid	8015 NM	
890-1961-5	SW20	Total/NA	Solid	8015 NM	
890-1961-6	SW21	Total/NA	Solid	8015 NM	
890-1961-7	SW22	Total/NA	Solid	8015 NM	
890-1961-8	SW23	Total/NA	Solid	8015 NM	
890-1961-9	SW24	Total/NA	Solid	8015 NM	
890-1961-10	SW25	Total/NA	Solid	8015 NM	
890-1961-11	SW26	Total/NA	Solid	8015 NM	
890-1961-12	SW27	Total/NA	Solid	8015 NM	
890-1961-13	SW10	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 19766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-1	SW16	Soluble	Solid	DI Leach	
890-1961-2	SW17	Soluble	Solid	DI Leach	
890-1961-3	SW18	Soluble	Solid	DI Leach	
890-1961-4	SW19	Soluble	Solid	DI Leach	
890-1961-5	SW20	Soluble	Solid	DI Leach	
890-1961-6	SW21	Soluble	Solid	DI Leach	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## HPLC/IC (Continued)

## Leach Batch: 19766 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-8	SW23	Soluble	Solid	DI Leach	
890-1961-9	SW24	Soluble	Solid	DI Leach	
890-1961-10	SW25	Soluble	Solid	DI Leach	
MB 880-19766/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19766/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19766/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1961-1 MS	SW16	Soluble	Solid	DI Leach	
890-1961-1 MSD	SW16	Soluble	Solid	DI Leach	

## Leach Batch: 19774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-11	SW26	Soluble	Solid	DI Leach	
890-1961-12	SW27	Soluble	Solid	DI Leach	
890-1961-13	SW10	Soluble	Solid	DI Leach	
MB 880-19774/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19774/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19774/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11428-A-3-H MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11428-A-3-I MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 19837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-1	SW16	Soluble	Solid	300.0	19766
890-1961-2	SW17	Soluble	Solid	300.0	19766
890-1961-3	SW18	Soluble	Solid	300.0	19766
890-1961-4	SW19	Soluble	Solid	300.0	19766
890-1961-5	SW20	Soluble	Solid	300.0	19766
890-1961-6	SW21	Soluble	Solid	300.0	19766
890-1961-8	SW23	Soluble	Solid	300.0	19766
890-1961-9	SW24	Soluble	Solid	300.0	19766
890-1961-10	SW25	Soluble	Solid	300.0	19766
MB 880-19766/1-A	Method Blank	Soluble	Solid	300.0	19766
LCS 880-19766/2-A	Lab Control Sample	Soluble	Solid	300.0	19766
LCSD 880-19766/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19766
890-1961-1 MS	SW16	Soluble	Solid	300.0	19766
890-1961-1 MSD	SW16	Soluble	Solid	300.0	19766

## Analysis Batch: 19872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-11	SW26	Soluble	Solid	300.0	19774
890-1961-12	SW27	Soluble	Solid	300.0	19774
890-1961-13	SW10	Soluble	Solid	300.0	19774
MB 880-19774/1-A	Method Blank	Soluble	Solid	300.0	19774
LCS 880-19774/2-A	Lab Control Sample	Soluble	Solid	300.0	19774
LCSD 880-19774/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19774
880-11428-A-3-H MS	Matrix Spike	Soluble	Solid	300.0	19774
880-11428-A-3-I MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	19774

## Leach Batch: 20129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-7	SW22	Soluble	Solid	DI Leach	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## HPLC/IC (Continued)

## Leach Batch: 20129 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-20129/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-20129/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-20129/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11518-A-6-F MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11518-A-6-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 20336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1961-7	SW22	Soluble	Solid	300.0	20129
MB 880-20129/1-A	Method Blank	Soluble	Solid	300.0	20129
LCS 880-20129/2-A	Lab Control Sample	Soluble	Solid	300.0	20129
LCSD 880-20129/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	20129
880-11518-A-6-F MS	Matrix Spike	Soluble	Solid	300.0	20129
880-11518-A-6-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	20129

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW16

Lab Sample ID: 890-1961-1

Date Collected: 02/16/22 13:45

Matrix: Solid

Date Received: 02/16/22 16:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19707	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19783	02/19/22 01:48	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 11:52	AJ	XEN MID
Soluble	Leach	DI Leach			19766	02/17/22 21:39	CH	XEN MID
Soluble	Analysis	300.0		1	19837	02/18/22 19:50	CH	XEN MID

Client Sample ID: SW17

Lab Sample ID: 890-1961-2

Date Collected: 02/16/22 09:55

Matrix: Solid

Date Received: 02/16/22 16:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19707	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19783	02/19/22 02:08	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 12:13	AJ	XEN MID
Soluble	Leach	DI Leach			19766	02/17/22 21:39	CH	XEN MID
Soluble	Analysis	300.0		1	19837	02/18/22 20:09	CH	XEN MID

Client Sample ID: SW18

Lab Sample ID: 890-1961-3

Date Collected: 02/16/22 14:20

Matrix: Solid

Date Received: 02/16/22 16:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19707	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19783	02/19/22 02:29	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 12:34	AJ	XEN MID
Soluble	Leach	DI Leach			19766	02/17/22 21:39	CH	XEN MID
Soluble	Analysis	300.0		1	19837	02/18/22 20:15	CH	XEN MID

Client Sample ID: SW19

Lab Sample ID: 890-1961-4

Date Collected: 02/16/22 14:25

Matrix: Solid

Date Received: 02/16/22 16:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19707	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19783	02/19/22 02:49	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW19

Date Collected: 02/16/22 14:25

Date Received: 02/16/22 16:22

## Lab Sample ID: 890-1961-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 12:55	AJ	XEN MID
Soluble	Leach	DI Leach			19766	02/17/22 21:39	CH	XEN MID
Soluble	Analysis	300.0		1	19837	02/18/22 20:34	CH	XEN MID

## Client Sample ID: SW20

Date Collected: 02/16/22 11:00

Date Received: 02/16/22 16:22

## Lab Sample ID: 890-1961-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19708	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19796	02/19/22 08:52	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 13:15	AJ	XEN MID
Soluble	Leach	DI Leach			19766	02/17/22 21:39	CH	XEN MID
Soluble	Analysis	300.0		1	19837	02/20/22 12:22	CH	XEN MID

## Client Sample ID: SW21

Date Collected: 02/16/22 14:00

Date Received: 02/16/22 16:22

## Lab Sample ID: 890-1961-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19708	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19796	02/19/22 09:20	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 13:36	AJ	XEN MID
Soluble	Leach	DI Leach			19766	02/17/22 21:39	CH	XEN MID
Soluble	Analysis	300.0		5	19837	02/18/22 20:47	CH	XEN MID

## Client Sample ID: SW22

Date Collected: 02/16/22 14:05

Date Received: 02/16/22 16:22

## Lab Sample ID: 890-1961-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19708	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19796	02/19/22 09:49	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 13:57	AJ	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

## Client Sample ID: SW22

Date Collected: 02/16/22 14:05

Date Received: 02/16/22 16:22

## Lab Sample ID: 890-1961-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			20129	02/23/22 09:37	CH	XEN MID
Soluble	Analysis	300.0		5	20336	02/25/22 16:50	CH	XEN MID

## Client Sample ID: SW23

Date Collected: 02/16/22 11:05

Date Received: 02/16/22 16:22

## Lab Sample ID: 890-1961-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19708	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19796	02/19/22 10:17	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 14:18	AJ	XEN MID
Soluble	Leach	DI Leach			19766	02/17/22 21:39	CH	XEN MID
Soluble	Analysis	300.0		1	19837	02/20/22 12:29	CH	XEN MID

## Client Sample ID: SW24

Date Collected: 02/16/22 12:05

Date Received: 02/16/22 16:22

## Lab Sample ID: 890-1961-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19708	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19796	02/19/22 10:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 14:38	AJ	XEN MID
Soluble	Leach	DI Leach			19766	02/17/22 21:39	CH	XEN MID
Soluble	Analysis	300.0		5	19837	02/18/22 21:06	CH	XEN MID

## Client Sample ID: SW25

Date Collected: 02/16/22 12:00

Date Received: 02/16/22 16:22

## Lab Sample ID: 890-1961-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19708	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19796	02/19/22 11:13	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 15:19	AJ	XEN MID
Soluble	Leach	DI Leach			19766	02/17/22 21:39	CH	XEN MID
Soluble	Analysis	300.0		1	19837	02/20/22 12:35	CH	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Client Sample ID: SW26

Lab Sample ID: 890-1961-11

Date Collected: 02/16/22 11:40

Matrix: Solid

Date Received: 02/16/22 16:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19708	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19796	02/19/22 11:40	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 15:40	AJ	XEN MID
Soluble	Leach	DI Leach			19774	02/17/22 21:49	CH	XEN MID
Soluble	Analysis	300.0		1	19872	02/19/22 06:45	CH	XEN MID

Client Sample ID: SW27

Lab Sample ID: 890-1961-12

Date Collected: 02/16/22 13:25

Matrix: Solid

Date Received: 02/16/22 16:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19708	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19796	02/19/22 12:08	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 16:01	AJ	XEN MID
Soluble	Leach	DI Leach			19774	02/17/22 21:49	CH	XEN MID
Soluble	Analysis	300.0		1	19872	02/19/22 07:01	CH	XEN MID

Client Sample ID: SW10

Lab Sample ID: 890-1961-13

Date Collected: 02/16/22 14:15

Matrix: Solid

Date Received: 02/16/22 16:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			19708	02/18/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	19796	02/19/22 12:34	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	19998	02/21/22 19:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	19843	02/18/22 17:26	AJ	XEN MID
Total/NA	Prep	8015NM Prep			19786	02/18/22 08:34	DM	XEN MID
Total/NA	Analysis	8015B NM		1	19782	02/18/22 16:21	AJ	XEN MID
Soluble	Leach	DI Leach			19774	02/17/22 21:49	CH	XEN MID
Soluble	Analysis	300.0		5	19872	02/19/22 07:17	CH	XEN MID

## Laboratory References:

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

Eurofins Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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.  
Project/Site: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

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: Remuda Basin State #2

Job ID: 890-1961-1  
SDG: 31403236.001.0129.35.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1961-1	SW16	Solid	02/16/22 13:45	02/16/22 16:22	0 - 4
890-1961-2	SW17	Solid	02/16/22 09:55	02/16/22 16:22	0 - 4
890-1961-3	SW18	Solid	02/16/22 14:20	02/16/22 16:22	0 - 4
890-1961-4	SW19	Solid	02/16/22 14:25	02/16/22 16:22	0 - 4
890-1961-5	SW20	Solid	02/16/22 11:00	02/16/22 16:22	0 - 4
890-1961-6	SW21	Solid	02/16/22 14:00	02/16/22 16:22	0 - 4
890-1961-7	SW22	Solid	02/16/22 14:05	02/16/22 16:22	0 - 4
890-1961-8	SW23	Solid	02/16/22 11:05	02/16/22 16:22	0 - 4
890-1961-9	SW24	Solid	02/16/22 12:05	02/16/22 16:22	0 - 4
890-1961-10	SW25	Solid	02/16/22 12:00	02/16/22 16:22	0 - 4
890-1961-11	SW26	Solid	02/16/22 11:40	02/16/22 16:22	0 - 4
890-1961-12	SW27	Solid	02/16/22 13:25	02/16/22 16:22	0 - 4
890-1961-13	SW10	Solid	02/16/22 14:15	02/16/22 16:22	0 - 4



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)


## Chain of Custody

Work Order No: \_\_\_\_\_

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Project Manager:	Aimee Cole	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	4600 West 60th Avenue	Address:	3104 E Green Street
City, State ZIP:	Avada, Colorado 80003	City, State ZIP:	Carlsbad, NM 88220
Phone:	720.384.7365	Email:	gonner.shore@wsp.com, Aimee.cole@wsp.com

<b>Program:</b> UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Rowfields <input type="checkbox"/> C <input type="checkbox"/> Iperfund <input type="checkbox"/> <b>State of Project:</b> Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____		<b>Work Order Comments</b>
--	--	----------------------------



Project Name:	Remuda Basin State #2	Turn Around			<b>ANALYSIS REQUEST</b>   890-1961 Chain of Custody	<b>Work Order Notes</b>  AFE: EW.2022.00063.EXP.01
Project Number:	31403236.001.0129.35.02	Routine <input type="checkbox"/>				
P.O. Number:		Rush: 24 Hr TAT				
Sampler's Name:	Conner Shore	Due Date:				

<b>SAMPLE RECEIPT</b>	Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Well Ice:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Temperature (°C):	2.6/2.4	Thermometer ID		
Received In tact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor: -0.2		
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers															
					TPH (EPA 8015)				BTEX (EPA 0-8021)				Chloride (EPA 300.0)							
SW16	S	2/16/2022	1345	0-4'	1	X			X				X							
SW17	S	2/16/2022	955	0-4'	1	X			X				X							
SW18	S	2/16/2022	1420	0-4'	1	X			X				X							
SW19	S	2/16/2022	1425	0-4'	1	X			X				X							
SW20	S	2/16/2022	1100	0-4'	1	X			X				X							
SW21	S	2/16/2022	1400	0-4'	1	X			X				X							
SW22	S	2/16/2022	1405	0-4'	1	X			X				X							
SW23	S	2/16/2022	1105	0-4'	1	X			X				X							
SW24	S	2/16/2022	1205	0-4'	1	X			X				X							
SW25	S	2/16/2022	1200	0-4'	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 Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti 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 Ti 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
		2.16.22 16:22			

## Chain of Custody

**Work Order No:**



Page 2 of 2

Work Order Comments									
<b>Program:</b> UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Brownfields <input type="checkbox"/> C <input type="checkbox"/> Fund <input type="checkbox"/>									
<b>State of Project:</b>									
<b>Reporting Level:</b> I <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/>									
<b>Deliverables:</b> EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:									

[illegible][illegible]

Circle Method(s) and Metal(s) to be analyzed	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 SiO <sub>2</sub> Na Sr II Sn U V Zn
TCPLP / SPLP 6010:	8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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 Xencro, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencro 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 Xencro. A minimum charge of \$75.00 will be applied to each project and a charge of \$3 for each sample submitted to Xencro, 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
		2.10.22 1022			

Revised Date 05/14/18 Row 2018

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1961-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1961****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: 890-1961-1

SDG Number: 31403236.001.0129.35.02

**Login Number: 1961****List Number: 2****Creator: Rodriguez, Leticia****List Source: Eurofins Midland****List Creation: 02/18/22 11:34 AM**

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	



## APPENDIX D

### NMOCD Notifications

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## Aimee Cole

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**From:** Green, Garrett J <garrett.green@exxonmobil.com>  
**Sent:** Tuesday, June 28, 2022 12:52 PM  
**To:** Aimee Cole; Tacoma Morrissey; Kalei Jennings  
**Subject:** FW: XTO Site Activities for the Week of Jan 17

[ \*\*EXTERNAL EMAIL\*\* ]

---

**From:** Morrissey, Tacoma [mailto:Tacoma.Morrissey@wsp.com]  
**Sent:** Thursday, January 13, 2022 2:59 PM  
**To:** OCD.Enviro@state.nm.us  
**Cc:** DelawareSpills /SM <DelawareSpills@exxonmobil.com>; WSP-XTO-Project-Team <WSP-XTO-Project-Team@wsp.com>  
**Subject:** XTO Site Activities for the Week of Jan 17

All,

XTO will be completing excavation and sampling activities at the following sites next week. We anticipate collecting final confirmation samples.

Monday:

- HOLIDAY

Tuesday:

- PLU 423 / nAPP2132248577
- Remuda Basin State 002 / NAB1802927873

Wednesday:

- PLU 423 / nAPP2132248577
- Remuda Basin State 002 / NAB1802927873

Thursday:

- PLU 423 / nAPP2132248577
- Remuda Basin State 002 / NAB1802927873

Friday:

- Remuda Basin State 002 / NAB1802927873

Thank you,

**Tacoma Morrissey**

Consultant Geologist  
Office Manager, Midland



## Aimee Cole

---

**From:** Green, Garrett J <garrett.green@exxonmobil.com>  
**Sent:** Tuesday, June 28, 2022 12:53 PM  
**To:** Aimee Cole; Tacoma Morrissey; Kalei Jennings  
**Subject:** FW: XTO Site Activities for the Week of Feb 14

[ \*\*EXTERNAL EMAIL\*\* ]

---

**From:** Morrissey, Tacoma [mailto:Tacoma.Morrissey@wsp.com]  
**Sent:** Friday, February 11, 2022 7:34 AM  
**To:** OCD.Enviro@state.nm.us  
**Cc:** DelawareSpills /SM <DelawareSpills@exxonmobil.com>; WSP-XTO-Project-Team <WSP-XTO-Project-Team@wsp.com>  
**Subject:** XTO Site Activities for the Week of Feb 14

All,

XTO will be completing excavation and sampling activities at the following sites next week. We anticipate collecting final confirmation samples.

Monday:

- Remuda Basin State 002 / NAB1802927873

Tuesday:

- PLU Del B 23 SWD / nAPP2134754672
- Remuda Basin State 002 / NAB1802927873

Wednesday:

- Remuda Basin State 002 / NAB1802927873

Thank you,

**Tacoma Morrissey**

Consultant Geologist  
Office Manager, Midland



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Bldg 1, Unit 222  
Midland, Texas 79705

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**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 123638

CONDITIONS

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  123638
	Action Type:  [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	9/22/2022