

Incident ID	NAPP2110461994
District RP	
Facility ID	
Application ID	

## Closure

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

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

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

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

Printed Name: Adrian Baker Title: Environmental Coordinator

Signature: Adrian Baker Date: 9/28/2021

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

### OCD Only

Received by: Robert Hamlet Date: 2/8/2022

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: Robert Hamlet Date: 2/8/2022

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural  
Resources Department

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

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## Release Notification

### Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

### Location of Release Source

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

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 total dissolved solids (TDS) 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 type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input 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? By whom? To whom? When and by what means (phone, email, etc)?	

### Initial Response

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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input 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: _____	Title: _____
Signature: <u>Adrian Bates</u>	Date: _____
email: _____	Telephone: _____
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>5/7/2021</u>

NAPP2110461994

<b>Location:</b>	<b>Elk Wallow 11 State #1</b>	
<b>Spill Date:</b>	<b>4/1/2021</b>	
<b>Area 1</b>		
Approximate Area =	39.10	sq. ft.
Average Saturation (or depth) of spill =	4.00	inches
Average Porosity Factor =	0.25	
<b>VOLUME OF LEAK</b>		
Total Crude Oil =	0.55	bbls
Total Produced Water =	0.03	bbls
<b>Area 2</b>		
Approximate Area =	25.00	sq. ft.
Average Saturation (or depth) of spill =	8.00	inches
Average Porosity Factor =	0.25	
<b>VOLUME OF LEAK</b>		
Total Crude Oil =	6.40	bbls
Total Produced Water =	0.34	bbls
<b>Area 3</b>		
Approximate Area =	374.00	sq. ft.
Average Saturation (or depth) of spill =	3.00	inches
Average Porosity Factor =	0.25	
<b>VOLUME OF LEAK</b>		
Total Crude Oil =	3.95	bbls
Total Produced Water =	0.21	bbls
<b>TOTAL VOLUME OF LEAK</b>		
Total Crude Oil =	10.90	bbls
Total Produced Water =	0.58	bbls
<b>TOTAL VOLUME RECOVERED</b>		
Total Crude Oil =	5.70	bbls
Total Produced Water =	0.30	bbls



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

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

CONDITIONS  
  
Action 24086

**CONDITIONS OF APPROVAL**

Operator: XTO ENERGY, INC                      6401 Holiday Hill Road Building #5                      Midland, TX79707		OGRID: 5380	Action Number: 24086	Action Type: C-141
OCD Reviewer rmarcus		Condition None		

Incident ID	NAPP2110461994
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## 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>&gt;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 checked="" type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input checked="" 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	NAPP2110461994
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Printed Name: \_\_\_\_\_ Adrian Baker \_\_\_\_\_ Title: \_\_\_\_\_ Environmental Coordinator \_\_\_\_\_

Signature: \_\_\_\_\_  \_\_\_\_\_ Date: \_\_\_\_\_ 9/28/2021 \_\_\_\_\_

email: \_\_\_\_\_ Adrian.baker@exxonmobil.com \_\_\_\_\_ Telephone: \_\_\_\_\_ (432)-236-3808 \_\_\_\_\_

**OCD Only**

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

Incident ID	NAPP2110461994
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## Closure

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

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

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

Printed Name: Adrian Baker Title: Environmental Coordinator

Signature: Adrian Baker Date: 9/28/2021

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

### OCD Only

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

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

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_



**WSP USA**

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

September 28, 2021

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

**RE: Closure Request  
Elk Wallow 11 State #1  
Incident Number NAPP2110461994  
Eddy County, New Mexico**

To Whom it May Concern:

WSP USA Inc. (WSP), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, soil sampling, and excavation activities at the Elk Wallow 11 State #1 (Site) in Unit D, Section 11, Township 25 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil following a release of crude oil and produced water at the Site. Based on the excavation activities and soil sample analytical results, XTO is submitting this Closure Request, describing remediation that has occurred and requesting no further action (NFA) for Incident Number NAPP2110461994.

## **RELEASE BACKGROUND**

On April 1, 2021, while removing the tank battery at the Site, an operator struck a 4-inch tank valve resulting in the release of 10.9 barrels (bbls) of crude oil and 0.58 bbls of produced water onto the well pad. A vacuum truck was immediately dispatched to the Site to recover freestanding fluids, approximately 5.7 bbls of crude oil and 0.30 bbls produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on April 14, 2021. The release was assigned Incident Number NAPP2110461994.

## **SITE CHARACTERIZATION**

WSP characterized the Site according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on a recent soil boring drilled for determination of regional groundwater depth. During May 2021, WSP installed a soil boring (C-4525) within 0.5 miles of the Site utilizing a truck-mounted hollow stem auger rig. Soil boring C-4525 was drilled to a depth of 110 feet bgs. A WSP geologist logged and described soils continuously. No moisture or groundwater was encountered



during drilling activities. The Well Record and Log is included in Attachment 1. The location of the borehole is approximately 0.5 miles southwest of the Site and is depicted on Figure 1. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 110 feet bgs. The borehole was properly abandoned with hydrated bentonite chips.

The closest continuously flowing water or significant watercourse to the Site is a riverine watercourse, located approximately 77 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, or church. The Site is located within 300 feet of a wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

## **CLOSURE CRITERIA**

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

## **SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS**

On April 22, 2021, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Surface indications of the release were observed on the north and south sides of the tank battery. WSP personnel collected three preliminary assessment soil samples (SS01 through SS03) within the release extents, from a depth of approximately 0.5 feet bgs to assess the lateral extent of impacted soil. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extents and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) and are presented on Figure 2. Photographic documentation of the Site evaluation and a photographic log is included in Attachment 2.

The preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, and method of analysis and immediately placed on ice. The



soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH- diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results indicated that BTEX and TPH concentrations exceeded the Closure Criteria in preliminary soil samples SS01 through SS03; chloride concentrations were compliant with Closure Criteria. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the preliminary soil samples, delineation and excavation activities were warranted.

### **DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES**

Remediation efforts were temporarily postponed pending Site abandonment activities. Once Site abandonment was complete, WSP personnel returned to the Site between August 5, 2021 and September 2, 2021, to oversee delineation and excavation activities as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples.

Delineation pothole PH01 was advanced via backhoe to a depth of 13 feet bgs within the northern release extent to assess the vertical extent of impacted soil. Delineation soil samples were collected from the pothole from depths ranging from 1 foot to 13 feet bgs. Soil from the pothole was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the pothole were logged on lithologic/soil sampling logs, which are included in Attachment 3. The delineation pothole location is presented on Figure 3. The delineation soil samples were collected, handled, and analyzed as described above at Eurofins in Carlsbad, New Mexico.

Based on field screening activities and laboratory analytical results for the preliminary and delineation soil samples, excavation activities were completed to remove the impacted soil. Excavation activities were performed using track-mounted backhoe and transport vehicle. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. The northern excavation was completed to depths ranging from 4 feet to 6.5 feet bgs, the southern excavation was completed to a depth of 7 feet bgs. Following removal of impacted soil, WSP collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavations. 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 soil samples FS01 through FS07, FS03A, and FS04A, were collected from the floor of the northern excavation at depths ranging from 4 feet to 6.5 feet bgs. Sidewall samples SW01 through SW04 were collected from the sidewalls of the northern excavation at depths ranging from ground



surface to 4 feet bgs. Composite soil samples FS08 through FS14 were collected from the floor of the southern excavation at a depth of 7 feet bgs. Sidewall samples SW05 through SW09 were collected from the sidewalls of the southern excavation at depths ranging from ground surface to 7 feet bgs. The excavation soil samples were collected, handled, and analyzed as described above. The excavation extents and excavation soil sample locations are presented on Figure 4.

The final excavation extents measured approximately 2,770 square feet. A total of approximately 625 cubic yards of impacted soil were removed during excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility located in Hobbs, New Mexico. After the completion of confirmation sampling, the excavation was secured with fencing.

### **SOIL ANALYTICAL RESULTS**

Laboratory analytical results for delineation soil samples PH01 and PH01A, collected at 1 foot and 4 feet bgs, indicated that TPH concentrations exceeded Closure Criteria. Subsequent delineation samples PH01B and PH01C, collected at 7 feet and 13 feet bgs, were compliant with the Closure Criteria and successfully delineated the vertical extent of impacted soil.

Laboratory analytical results for excavation floor samples FS01, FS02, FS03A, FS04A, and FS05 through FS14, and excavation sidewall samples SW01 through SW09, collected from the final excavation extents, indicated that benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for excavation floor samples FS03 and FS04 indicated that chloride concentrations initially exceeded the Closure Criteria. Additional soil was removed from these areas and subsequent floor samples FS03A, and FS04A were compliant. The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Attachment 4.

### **CLOSURE REQUEST**

Site assessment and excavation activities were conducted at the Site to address the April 1, 2021 release of crude oil and produced water. Based on the laboratory analytical results for the preliminary and delineation soil samples, impacted soil was excavated. Laboratory analytical results for the excavation soil samples collected from the final excavation extent indicated that benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the soil sample analytical results, no further remediation was required.

XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. As such, XTO respectfully requests NFA for Incident Number NAPP2110461994.





District II  
Page 5

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

Sincerely,

WSP USA Inc.

A handwritten signature in black ink, appearing to read 'Morrissey'.

Tacoma Morrissey  
Consultant, Geologist

A handwritten signature in black ink, appearing to read 'Ashley L. Ager'.

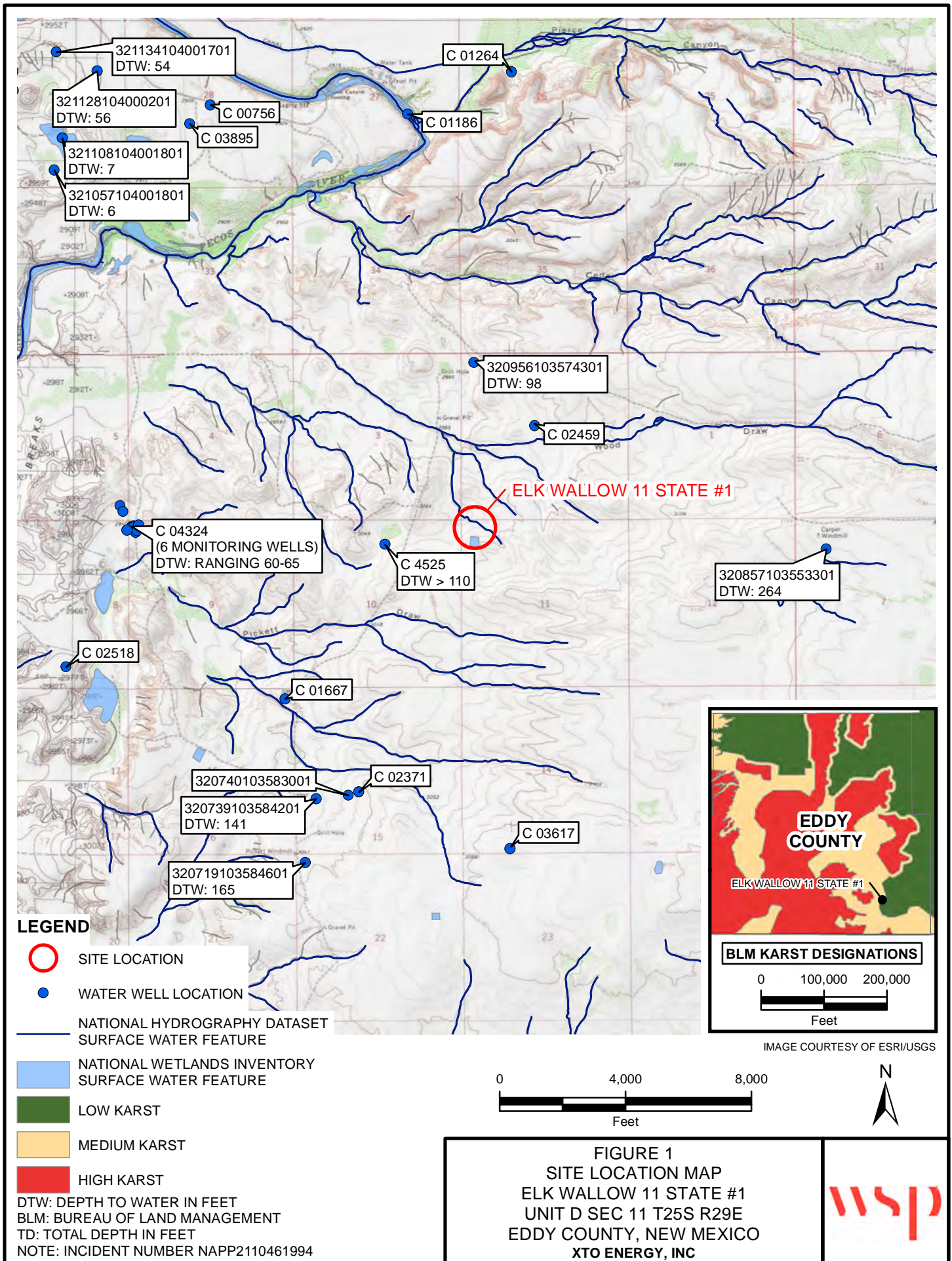
Ashley L. Ager, P.G.  
Managing Director, Geologist

cc: Shelby Pennington, XTO  
Adrian Baker, XTO  
New Mexico State Land Office

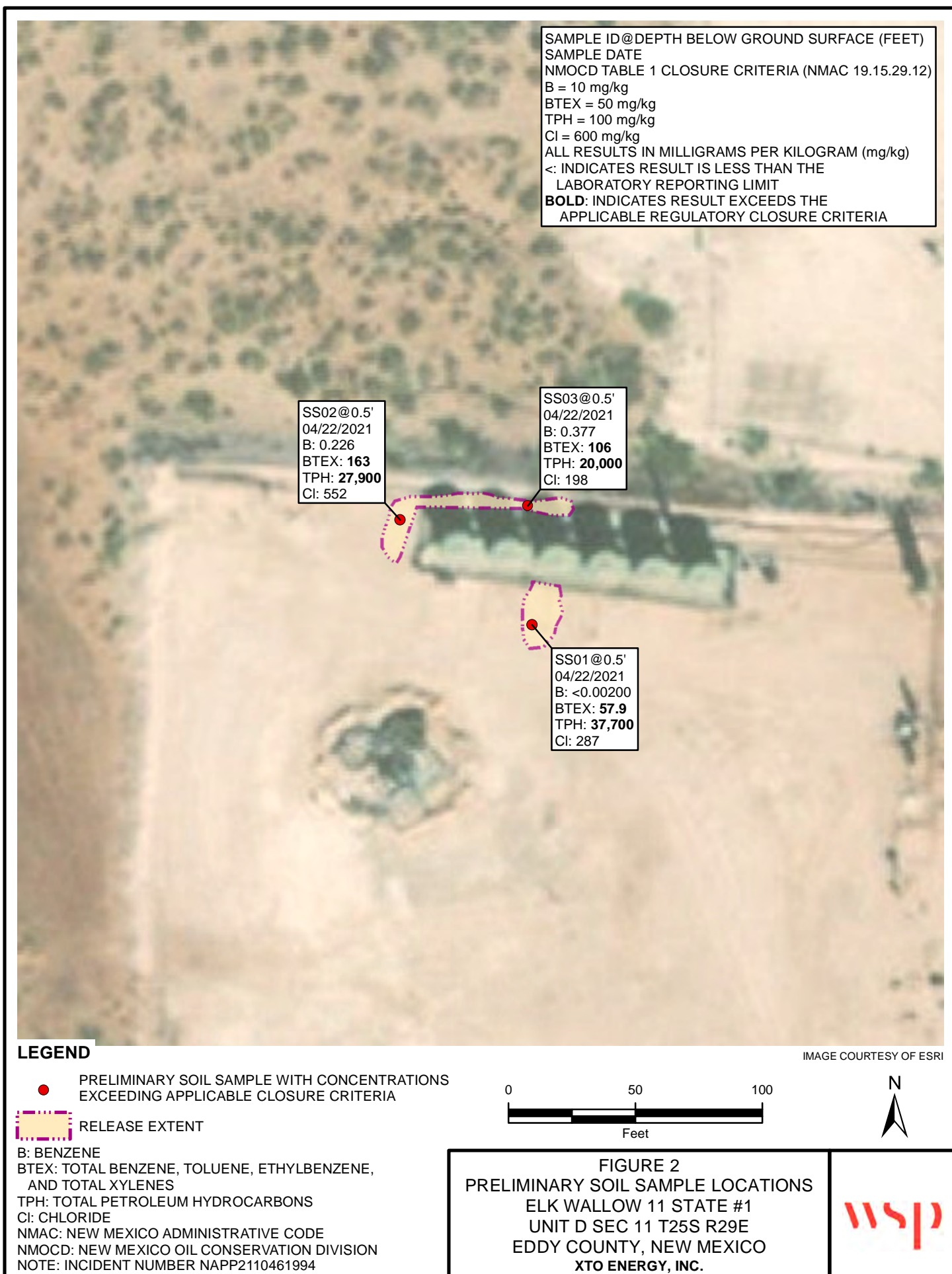
Attachments:

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

FIGURES





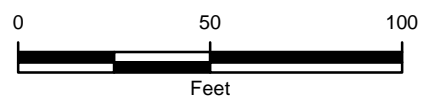




**LEGEND**

IMAGE COURTESY OF ESRI

-  DELINEATION SOIL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA  
 RELEASE EXTENT



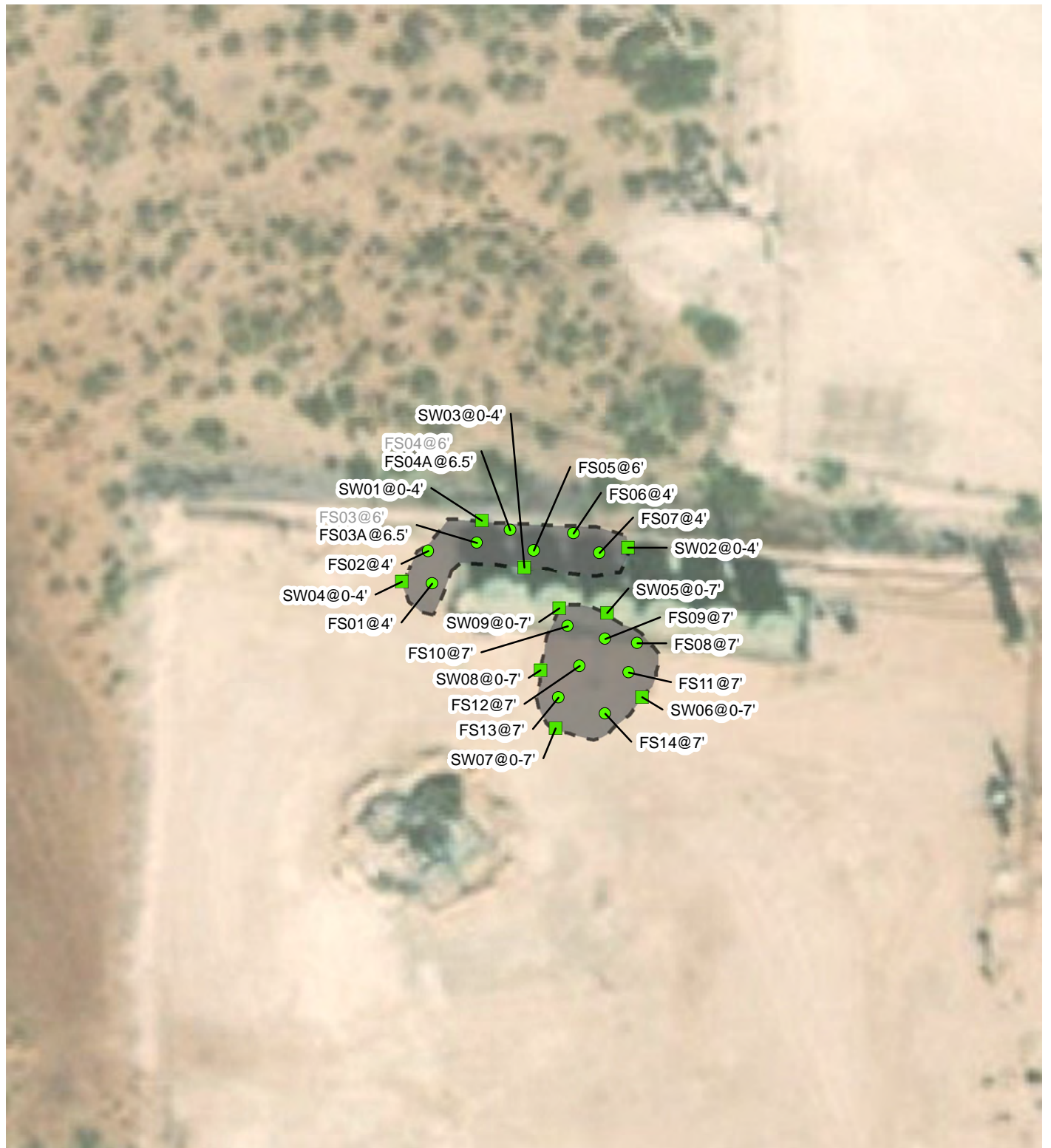
NOTE: INCIDENT NUMBER NAPP2110461994  
 SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)  
 TEXT: INDICATES SOIL REPRESENTED BY SAMPLE THAT WAS REMOVED

**FIGURE 3**  
**DELINEATION SOIL SAMPLE LOCATIONS**  
 ELK WALLOW 11 STATE #1  
 UNIT D SEC 11 T25S R29E  
 EDDY COUNTY, NEW MEXICO  
 XTO ENERGY, INC.



P:\XTO Energy\GIS\MXD\012921045\_ELK WALLOW 11 STATE #1\012921045\_FIG03\_DELINEATION\_2021.mxd



**LEGEND**

FLOOR SAMPLE IN COMPLIANCE  
WITH APPLICABLE CLOSURE CRITERIA



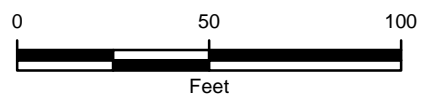
SIDEWALL SAMPLE IN COMPLIANCE  
WITH APPLICABLE CLOSURE CRITERIA



EXCAVATION EXTENT

NOTE: INCIDENT NUMBER NAPP2110461994  
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)  
TEXT: INDICATES SOIL REPRESENTED BY SAMPLE  
THAT WAS REMOVED

IMAGE COURTESY OF ESRI



**FIGURE 4**  
**EXCAVATION SOIL SAMPLE LOCATIONS**  
ELK WALLOW 11 STATE #1  
UNIT D SEC 11 T25S R29E  
EDDY COUNTY, NEW MEXICO  
**XTO ENERGY, INC.**



TABLES

Table 1

**Soil Analytical Results  
Elk Wallow 11 State #1  
Incident Number NAPP2110461994  
Eddy County, New Mexico**

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table 1 Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	NE	NE	NE	NE	<b>100</b>	<b>600</b>
<b>Surface Samples</b>										
SS01	04/22/2021	0.5	<0.00200	<b>57.9</b>	20,000	13,100	4,560	33,100	<b>37,700</b>	287
SS02	04/22/2021	0.5	0.226	<b>163</b>	17,000	6,890	3,960	23,900	<b>27,900</b>	552
SS03	04/22/2021	0.5	0.377	<b>106</b>	11,800	5,550	2,650	17,400	<b>20,000</b>	198
<b>Delineation Samples</b>										
PH01	08/05/2021	1	<0.00199	0.320	2,480	2,100	315	4,580	<b>4,900</b>	271
PH01A	08/05/2021	4	<0.00200	0.147	1,340	857	153	2,200	<b>2,350</b>	169
PH01B	08/05/2021	7	<0.00201	0.0475	<50.0	<50.0	<50.0	<50.0	<50.0	44.5
PH01C	08/06/2021	13	<0.00200	0.0243	<49.9	<49.9	<49.9	<49.9	<49.9	35.2
<b>Excavation Floor Samples</b>										
FS01	08/06/2021	4	<0.00202	0.0148	<49.8	<49.8	<49.8	<49.8	<49.8	133
FS02	08/06/2021	4	<0.00202	0.0100	<49.9	<49.9	<49.9	<49.9	<49.9	284
FS03	08/06/2021	6	<0.00198	<0.00396	<49.8	<49.8	<49.8	<49.8	<49.8	<b>628</b>
FS03A	09/02/2021	6.5	<0.00199	<0.00398	85.5	<49.9	<49.9	85.5	85.5	385
FS04	08/06/2021	6	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	<b>612</b>
FS04A	09/02/2021	6.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	246
FS05	08/06/2021	6	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	539
FS06	08/06/2021	4	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	520
FS07	08/06/2021	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	85.1
FS08	08/12/2021	7	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	71.7
FS09	08/12/2021	7	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	26.3
FS10	08/12/2021	7	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	50.9
FS11	08/12/2021	7	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	46.4
FS12	08/12/2021	7	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	67.8
FS13	08/12/2021	7	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	56.2
FS14	08/12/2021	7	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	42.2



Table 1

**Soil Analytical Results**  
**Elk Wallow 11 State #1**  
**Incident Number : NAPP2110461994**  
**Eddy County, New Mexico**

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table 1 Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	NE	NE	NE	NE	<b>100</b>	<b>600</b>
<b>Excavation Sidewall Samples</b>										
SW01	08/06/2021	0 - 4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	43.1
SW02	08/06/2021	0 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	185
SW03	08/06/2021	0 - 4	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	304
SW04	08/06/2021	0 - 4	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	431
SW05	08/09/2021	0 - 7	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	105
SW06	08/09/2021	0 - 7	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	22.7
SW07	08/09/2021	0 - 7	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	165
SW08	08/12/2021	0 - 7	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	66.0
SW09	08/12/2021	0 - 7	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	22.3

**Notes:**

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code

&lt; - indicates result is less than the stated laboratory method practical quantitation limit

NE - Not Established

**BOLD** - indicates results exceed the higher of the background sample result or applicable regulatory standard

Greyed data represents samples that were excavated

ATTACHMENT 1: REFERENCED WELL RECORDS



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (MW-1)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4525			
	WELL OWNER NAME(S) XTO Energy (Kyle Littrell)				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 6401 Holiday Hill Dr.				CITY Midland	STATE TX	ZIP 79707	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32°	MINUTES 8'	SECONDS 57.48"	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
		LONGITUDE 103°	58'	18.24"	W	* DATUM REQUIRED: WGS 84		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NW NE Sec. 10 T25S R29E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 05/26/2021		DRILLING ENDED 05/26/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 110	DEPTH WATER FIRST ENCOUNTERED (FT) n/a	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a	
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	110	±8.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	C-4525	POD NO.	1	TRN NO.	692090
LOCATION	Expl	25S. 29E. 10. 213		WELL TAG ID NO.	—

PAGE 1 OF 2


OSE DT JUN 10 2021 PM 2:45

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	24	24	CALICHE, mod. consolidated, tan-off white, dry	Y ✓ N	
	24	29	5	SAND, poorly graded, very- fine grained, caliche gravel, light-brown	Y ✓ N	
	29	39	10	SAND, poorly graded, very- fine grained, caliche gravel, light-brown, moist	Y ✓ N	
	39	44	5	SAND, poorly graded, very- fine grained, light-brown, moist	Y ✓ N	
	44	59	15	SAND, poorly graded, very- fine grained, light-brown, moist	Y ✓ N	
	59	69	10	SAND, poorly graded, very- fine grained, brown, moist	Y ✓ N	
	69	74	5	SAND, poorly graded, very- fine grained, caliche gravel, brown, moist	Y ✓ N	
	74	79	5	SILTY SAND, poorly graded, very- fine grained, caliche gravel, brown, moist	Y ✓ N	
	79	89	10	SAND, poorly graded, very- fine grained, with silt, brown, moist	Y ✓ N	
	89	94	5	SILTY SAND, poorly graded, very- fine grained, caliche gravel, brown, moist	Y ✓ N	
	94	110	16	SILTY SAND, poorly graded, very- fine grained, brown, moist	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:						

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface. Logs adapted from WSP on-site geologist.	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge, Carmelo Trevino, Cameron Pruitt	

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 SIGNATURE OF DRILLER / PRINT SIGNEE NAME	Jackie D. Atkins DATE: 06/09/2021

FOR OSE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 06/30/2017)

FILE NO. <b>C-4525</b>	POD NO. <b>1</b>	TRN NO. <b>692090</b>
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

OSE DTI JUN 10 2021 PM 2:47

**DESCRIPTION:**

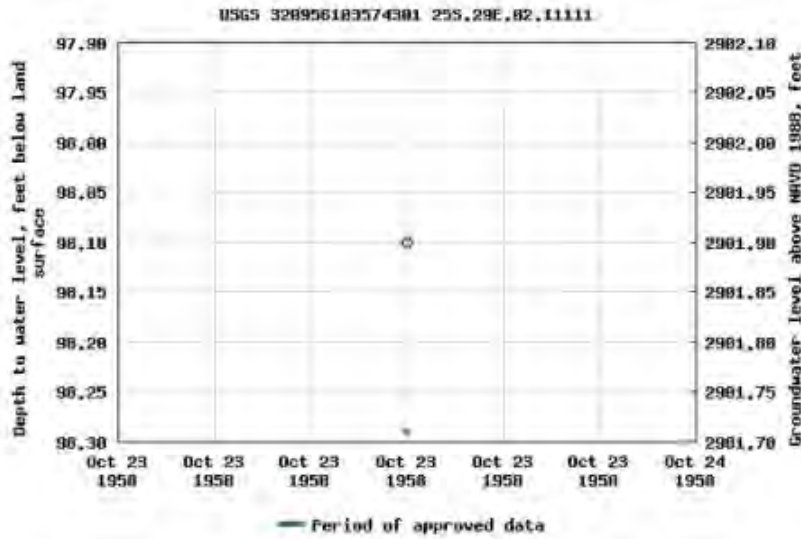
Latitude 32°09'56", Longitude 103°57'43" NAD27  
Eddy County, New Mexico, Hydrologic Unit 13060011  
Well depth: 140 feet  
Land surface altitude: 3,000 feet above NAVD88.  
Well completed in "Other aquifers" (N9999OTHER) national aquifer.  
Well completed in "Rustler Formation" (312RSLR) local aquifer

**AVAILABLE DATA:**

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1958-10-23	1958-10-23	1
Revisions	Unavailable (site:0) (timeseries:0)		

**OPERATION:**

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



ATTACHMENT 2: PHOTOGRAPHIC LOG



## PHOTOGRAPHIC LOG

XTO Energy, Inc.	Elk Wallow 11 State #1 Eddy County, New Mexico	NAPP2110461994
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Photo No.	Date	
1	April 1, 2021	
View of southern release extent facing north.		 <p>Elk Wallow 11 State #1 btry Carlsbad, NM 88220, United States 01-Apr-21 15:07:51</p>

Photo No.	Date	
2	April 22, 2021	
View of northern release extent facing southwest.		



**PHOTOGRAPHIC LOG**


<b>XTO Energy, Inc.</b>	<b>Elk Wallow 11 State #1</b> <b>Eddy County, New Mexico</b>	<b>NAPP2110461994</b>
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<b>Photo No.</b>	<b>Date</b>	
3	August 4, 2021	
View of southern excavation facing north. Northern excavation is in the background, tanks have been removed.		

<b>Photo No.</b>	<b>Date</b>	
4	August 5, 2021	
View of northern excavation facing west.		



ATTACHMENT 3: LITHOLOGIC/SAMPLING LOGS

 <b>WSP USA</b> 508 West Stevens Street Carlsbad, New Mexico 88220								BH or PH Name: PH01		8/4/2021	
								Site Name: Elk Wallow 11 State #1			
								RP or Incident Number: NAPP2110461994			
								WSP Job Number: TE012921045			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: JH and AC		Method: Backhoe	
Lat/Long: 32.15143, -103.96225				Field Screening: Hach chloride strips, PID				Hole Diameter: 2 feet		Total Depth: 13 feet bgs	
Comments: All chloride field screenings include a 40% correction factor M-moist; D-dry; Y-yes; N-no; BDL- below detection limits											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
	524	30.4		PH01	1	1	SP				
		199				2	SP				
	436	436.0		PH01A	4	4	SP				
	300	1409	Y			5	CCHE	faint odor			
	300	29.3	Y	PH01B	7	7	CCHE	faint odor			
	179	89.7				9	SM				
	319	38.7				11	SM				
	269	2.3		PH01C	13	13	SM	TD @ 13'			

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-559-1

Laboratory Sample Delivery Group: TE012921045

Client Project/Site: Elk Wallow 11 State # 1

**For:**

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

Attn: Dan Moir

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

Authorized for release by:  
4/29/2021 10:01:16 AM

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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[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: Elk Wallow 11 State # 1

Laboratory Job ID: 890-559-1  
SDG: TE012921045

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

## 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, 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: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

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### Job ID: 890-559-1

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Laboratory: Eurofins Xenco, Carlsbad

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#### Narrative

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#### Job Narrative 890-559-1

##### Receipt

The samples were received on 4/22/2021 4:21 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

##### Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: SS01 (890-559-1), SS02 (890-559-2) and SS03 (890-559-3).

##### GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: SS01 (890-559-1), SS02 (890-559-2) and SS03 (890-559-3). 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: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

Client Sample ID: SS01

Lab Sample ID: 890-559-1

Date Collected: 04/22/21 11:00

Matrix: Solid

Date Received: 04/22/21 16:21

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		04/23/21 13:38	04/24/21 19:22	1
Toluene	16.4		0.200	mg/Kg		04/26/21 10:48	04/26/21 18:31	100
Ethylbenzene	0.341		0.00200	mg/Kg		04/23/21 13:38	04/24/21 19:22	1
m-Xylene & p-Xylene	23.8		0.401	mg/Kg		04/26/21 10:48	04/26/21 18:31	100
o-Xylene	9.55		0.200	mg/Kg		04/26/21 10:48	04/26/21 18:31	100
Xylenes, Total	33.4		0.401	mg/Kg		04/26/21 10:48	04/26/21 18:31	100
Total BTEX	57.9		0.401	mg/Kg		04/26/21 10:48	04/26/21 18:31	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	682	S1+	70 - 130	04/23/21 13:38	04/24/21 19:22	1
1,4-Difluorobenzene (Surr)	82		70 - 130	04/23/21 13:38	04/24/21 19:22	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	13100		250	mg/Kg		04/26/21 08:55	04/26/21 18:58	5
Diesel Range Organics (Over C10-C28)	20000		250	mg/Kg		04/26/21 08:55	04/26/21 18:58	5
Oil Range Organics (Over C28-C36)	4560		250	mg/Kg		04/26/21 08:55	04/26/21 18:58	5
Total TPH	37700		250	mg/Kg		04/26/21 08:55	04/26/21 18:58	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	228	S1+	70 - 130	04/26/21 08:55	04/26/21 18:58	5
o-Terphenyl	333	S1+	70 - 130	04/26/21 08:55	04/26/21 18:58	5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	287		4.99	mg/Kg			04/28/21 03:43	1

Client Sample ID: SS02

Lab Sample ID: 890-559-2

Date Collected: 04/22/21 11:10

Matrix: Solid

Date Received: 04/22/21 16:21

Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.226		0.00198	mg/Kg		04/23/21 13:38	04/24/21 19:43	1
Toluene	32.0		1.01	mg/Kg		04/28/21 12:45	04/28/21 16:50	500
Ethylbenzene	23.3		1.01	mg/Kg		04/28/21 12:45	04/28/21 16:50	500
m-Xylene & p-Xylene	79.7		2.01	mg/Kg		04/28/21 12:45	04/28/21 16:50	500
o-Xylene	28.0		1.01	mg/Kg		04/28/21 12:45	04/28/21 16:50	500
Xylenes, Total	108		2.01	mg/Kg		04/28/21 12:45	04/28/21 16:50	500
Total BTEX	163		2.01	mg/Kg		04/28/21 12:45	04/28/21 16:50	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	857	S1+	70 - 130	04/23/21 13:38	04/24/21 19:43	1
1,4-Difluorobenzene (Surr)	93		70 - 130	04/23/21 13:38	04/24/21 19:43	1

Eurofins Xenco, Carlsbad



## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

Client Sample ID: SS02

Lab Sample ID: 890-559-2

Date Collected: 04/22/21 11:10

Matrix: Solid

Date Received: 04/22/21 16:21

Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	6890		249	mg/Kg		04/26/21 08:55	04/27/21 07:07	5
Diesel Range Organics (Over C10-C28)	17000		249	mg/Kg		04/26/21 08:55	04/27/21 07:07	5
Oil Range Organics (Over C28-C36)	3960		249	mg/Kg		04/26/21 08:55	04/27/21 07:07	5
Total TPH	27900		249	mg/Kg		04/26/21 08:55	04/27/21 07:07	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	197	S1+	70 - 130	04/26/21 08:55	04/27/21 07:07	5
o-Terphenyl	257	S1+	70 - 130	04/26/21 08:55	04/27/21 07:07	5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	552		4.95	mg/Kg			04/28/21 03:48	1

Client Sample ID: SS03

Lab Sample ID: 890-559-3

Date Collected: 04/22/21 11:20

Matrix: Solid

Date Received: 04/22/21 16:21

Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.377		0.00202	mg/Kg		04/23/21 13:38	04/24/21 21:06	1
Toluene	28.4		0.202	mg/Kg		04/26/21 10:48	04/26/21 19:12	100
Ethylbenzene	14.3		0.202	mg/Kg		04/26/21 10:48	04/26/21 19:12	100
m-Xylene & p-Xylene	44.0		0.404	mg/Kg		04/26/21 10:48	04/26/21 19:12	100
o-Xylene	17.6		0.202	mg/Kg		04/26/21 10:48	04/26/21 19:12	100
Xylenes, Total	61.6		0.404	mg/Kg		04/26/21 10:48	04/26/21 19:12	100
Total BTEX	106		0.404	mg/Kg		04/26/21 10:48	04/26/21 19:12	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	440	S1+	70 - 130	04/23/21 13:38	04/24/21 21:06	1
4-Bromofluorobenzene (Surr)	97		70 - 130	04/26/21 10:48	04/26/21 19:12	100
1,4-Difluorobenzene (Surr)	108		70 - 130	04/23/21 13:38	04/24/21 21:06	1
1,4-Difluorobenzene (Surr)	84		70 - 130	04/26/21 10:48	04/26/21 19:12	100

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	5550		249	mg/Kg		04/26/21 08:55	04/27/21 07:36	5
Diesel Range Organics (Over C10-C28)	11800		249	mg/Kg		04/26/21 08:55	04/27/21 07:36	5
Oil Range Organics (Over C28-C36)	2650		249	mg/Kg		04/26/21 08:55	04/27/21 07:36	5
Total TPH	20000		249	mg/Kg		04/26/21 08:55	04/27/21 07:36	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	169	S1+	70 - 130	04/26/21 08:55	04/27/21 07:36	5
o-Terphenyl	191	S1+	70 - 130	04/26/21 08:55	04/27/21 07:36	5

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

Client Sample ID: SS03  
Date Collected: 04/22/21 11:20  
Date Received: 04/22/21 16:21  
Sample Depth: - 0.5

Lab Sample ID: 890-559-3  
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	198		5.00	mg/Kg			04/28/21 03:54	1	

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

## 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)
890-559-1	SS01	682 S1+	82
890-559-2	SS02	857 S1+	93
890-559-3	SS03	440 S1+	108
890-559-3	SS03	97	84
LCS 880-2226/1-B	Lab Control Sample	90	103
LCS 880-2322/1-A	Lab Control Sample	101	104
LCSD 880-2226/2-B	Lab Control Sample Dup	97	107
LCSD 880-2322/2-A	Lab Control Sample Dup	99	105
MB 880-2226/5-B	Method Blank	109	98
MB 880-2322/5-A	Method Blank	99	102
<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)
890-559-1	SS01	228 S1+	333 S1+
890-559-2	SS02	197 S1+	257 S1+
890-559-3	SS03	169 S1+	191 S1+
LCS 880-2316/2-A	Lab Control Sample	98	101
LCSD 880-2316/3-A	Lab Control Sample Dup	97	100
MB 880-2316/1-A	Method Blank	88	99
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

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

Lab Sample ID: MB 880-2226/5-B

Matrix: Solid

Analysis Batch: 2277

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2226

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		04/23/21 13:38	04/24/21 16:15	1
Toluene	<0.00200	U	0.00200	mg/Kg		04/23/21 13:38	04/24/21 16:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/23/21 13:38	04/24/21 16:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		04/23/21 13:38	04/24/21 16:15	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		04/23/21 13:38	04/24/21 16:15	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		04/23/21 13:38	04/24/21 16:15	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		04/23/21 13:38	04/24/21 16:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	04/23/21 13:38	04/24/21 16:15	1
1,4-Difluorobenzene (Surr)	98		70 - 130	04/23/21 13:38	04/24/21 16:15	1

Lab Sample ID: LCS 880-2226/1-B

Matrix: Solid

Analysis Batch: 2277

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2226

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08212		mg/Kg		82	70 - 130
Toluene	0.100	0.09331		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.09093		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1860		mg/Kg		93	70 - 130
o-Xylene	0.100	0.09092		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-2226/2-B

Matrix: Solid

Analysis Batch: 2277

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2226

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.08693		mg/Kg		87	70 - 130	6	35
Toluene	0.100	0.1020		mg/Kg		102	70 - 130	9	35
Ethylbenzene	0.100	0.09697		mg/Kg		97	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1979		mg/Kg		99	70 - 130	6	35
o-Xylene	0.100	0.09656		mg/Kg		97	70 - 130	6	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: MB 880-2322/5-A

Matrix: Solid

Analysis Batch: 2325

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2322

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		04/26/21 10:48	04/26/21 15:59	1

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

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

Lab Sample ID: MB 880-2322/5-A

Matrix: Solid

Analysis Batch: 2325

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2322

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00200	U	0.00200	mg/Kg		04/26/21 10:48	04/26/21 15:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/26/21 10:48	04/26/21 15:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		04/26/21 10:48	04/26/21 15:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		04/26/21 10:48	04/26/21 15:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		04/26/21 10:48	04/26/21 15:59	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		04/26/21 10:48	04/26/21 15:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	04/26/21 10:48	04/26/21 15:59	1
1,4-Difluorobenzene (Surr)	102		70 - 130	04/26/21 10:48	04/26/21 15:59	1

Lab Sample ID: LCS 880-2322/1-A

Matrix: Solid

Analysis Batch: 2325

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2322

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09265		mg/Kg		93	70 - 130
Toluene	0.100	0.09469		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.1007		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	0.200	0.2048		mg/Kg		102	70 - 130
o-Xylene	0.100	0.1002		mg/Kg		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-2322/2-A

Matrix: Solid

Analysis Batch: 2325

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2322

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09343		mg/Kg		93	70 - 130	1	35
Toluene	0.100	0.09645		mg/Kg		96	70 - 130	2	35
Ethylbenzene	0.100	0.1022		mg/Kg		102	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2080		mg/Kg		104	70 - 130	2	35
o-Xylene	0.100	0.1011		mg/Kg		101	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

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

Lab Sample ID: MB 880-2316/1-A

Matrix: Solid

Analysis Batch: 2308

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2316

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		04/26/21 08:55	04/26/21 10:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		04/26/21 08:55	04/26/21 10:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		04/26/21 08:55	04/26/21 10:40	1
Total TPH	<50.0	U	50.0	mg/Kg		04/26/21 08:55	04/26/21 10:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	04/26/21 08:55	04/26/21 10:40	1
o-Terphenyl	99		70 - 130	04/26/21 08:55	04/26/21 10:40	1

Lab Sample ID: LCS 880-2316/2-A

Matrix: Solid

Analysis Batch: 2308

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	995.7		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	1000	942.9		mg/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: LCSD 880-2316/3-A

Matrix: Solid

Analysis Batch: 2308

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2316

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	995.1		mg/Kg		100	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	1000	944.7		mg/Kg		94	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	100		70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2215/1-A

Matrix: Solid

Analysis Batch: 2403

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			04/28/21 01:12	1

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QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-2215/2-A					Client Sample ID: Lab Control Sample				
Matrix: Solid					Prep Type: Soluble				
Analysis Batch: 2403									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	250	257.7		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-2215/3-A					Client Sample ID: Lab Control Sample Dup				
Matrix: Solid					Prep Type: Soluble				
Analysis Batch: 2403									
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	264.3		mg/Kg		106	90 - 110	3	20

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

## GC VOA

## Prep Batch: 2226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-1	SS01	Total/NA	Solid	5035	
890-559-2	SS02	Total/NA	Solid	5035	
890-559-3	SS03	Total/NA	Solid	5035	
MB 880-2226/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-2226/1-B	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-2226/2-B	Lab Control Sample Dup	Total/NA	Solid	5035	

## Analysis Batch: 2277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-1	SS01	Total/NA	Solid	8021B	2226
890-559-2	SS02	Total/NA	Solid	8021B	2226
890-559-3	SS03	Total/NA	Solid	8021B	2226
MB 880-2226/5-B	Method Blank	Total/NA	Solid	8021B	2226
LCS 880-2226/1-B	Lab Control Sample	Total/NA	Solid	8021B	2226
LCSD 880-2226/2-B	Lab Control Sample Dup	Total/NA	Solid	8021B	2226

## Prep Batch: 2322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-1	SS01	Total/NA	Solid	5035	
890-559-3	SS03	Total/NA	Solid	5035	
MB 880-2322/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-2322/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-2322/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

## Analysis Batch: 2325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-1	SS01	Total/NA	Solid	8021B	2322
890-559-3	SS03	Total/NA	Solid	8021B	2322
MB 880-2322/5-A	Method Blank	Total/NA	Solid	8021B	2322
LCS 880-2322/1-A	Lab Control Sample	Total/NA	Solid	8021B	2322
LCSD 880-2322/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	2322

## Analysis Batch: 2381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-2	SS02	Total/NA	Solid	8021B	2384

## Prep Batch: 2384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-2	SS02	Total/NA	Solid	5035	

## GC Semi VOA

## Analysis Batch: 2308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-1	SS01	Total/NA	Solid	8015B NM	2316
890-559-2	SS02	Total/NA	Solid	8015B NM	2316
890-559-3	SS03	Total/NA	Solid	8015B NM	2316
MB 880-2316/1-A	Method Blank	Total/NA	Solid	8015B NM	2316
LCS 880-2316/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	2316
LCSD 880-2316/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	2316

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

## GC Semi VOA

## Prep Batch: 2316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-1	SS01	Total/NA	Solid	8015NM Prep	
890-559-2	SS02	Total/NA	Solid	8015NM Prep	
890-559-3	SS03	Total/NA	Solid	8015NM Prep	
MB 880-2316/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-2316/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-2316/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

## HPLC/IC

## Leach Batch: 2215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-1	SS01	Soluble	Solid	DI Leach	
890-559-2	SS02	Soluble	Solid	DI Leach	
890-559-3	SS03	Soluble	Solid	DI Leach	
MB 880-2215/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2215/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2215/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

## Analysis Batch: 2403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-559-1	SS01	Soluble	Solid	300.0	2215
890-559-2	SS02	Soluble	Solid	300.0	2215
890-559-3	SS03	Soluble	Solid	300.0	2215
MB 880-2215/1-A	Method Blank	Soluble	Solid	300.0	2215
LCS 880-2215/2-A	Lab Control Sample	Soluble	Solid	300.0	2215
LCSD 880-2215/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2215

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

Client Sample ID: SS01

Lab Sample ID: 890-559-1

Date Collected: 04/22/21 11:00

Matrix: Solid

Date Received: 04/22/21 16:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2226	04/23/21 13:38	KL	XM
Total/NA	Analysis	8021B		1	2277	04/24/21 19:22	KL	XM
Total/NA	Prep	5035			2322	04/26/21 10:48	KL	XM
Total/NA	Analysis	8021B		100	2325	04/26/21 18:31	KL	XM
Total/NA	Prep	8015NM Prep			2316	04/26/21 08:55	DM	XM
Total/NA	Analysis	8015B NM		5	2308	04/26/21 18:58	AJ	XM
Soluble	Leach	DI Leach			2215	04/23/21 12:29	CH	XM
Soluble	Analysis	300.0		1	2403	04/28/21 03:43	CH	XM

Client Sample ID: SS02

Lab Sample ID: 890-559-2

Date Collected: 04/22/21 11:10

Matrix: Solid

Date Received: 04/22/21 16:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2226	04/23/21 13:38	KL	XM
Total/NA	Analysis	8021B		1	2277	04/24/21 19:43	KL	XM
Total/NA	Prep	5035			2384	04/28/21 12:45	KL	XM
Total/NA	Analysis	8021B		500	2381	04/28/21 16:50	MR	XM
Total/NA	Prep	8015NM Prep			2316	04/26/21 08:55	DM	XM
Total/NA	Analysis	8015B NM		5	2308	04/27/21 07:07	AJ	XM
Soluble	Leach	DI Leach			2215	04/23/21 12:29	CH	XM
Soluble	Analysis	300.0		1	2403	04/28/21 03:48	CH	XM

Client Sample ID: SS03

Lab Sample ID: 890-559-3

Date Collected: 04/22/21 11:20

Matrix: Solid

Date Received: 04/22/21 16:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2226	04/23/21 13:38	KL	XM
Total/NA	Analysis	8021B		1	2277	04/24/21 21:06	KL	XM
Total/NA	Prep	5035			2322	04/26/21 10:48	KL	XM
Total/NA	Analysis	8021B		100	2325	04/26/21 19:12	KL	XM
Total/NA	Prep	8015NM Prep			2316	04/26/21 08:55	DM	XM
Total/NA	Analysis	8015B NM		5	2308	04/27/21 07:36	AJ	XM
Soluble	Leach	DI Leach			2215	04/23/21 12:29	CH	XM
Soluble	Analysis	300.0		1	2403	04/28/21 03:54	CH	XM

## Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

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

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

## Method Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

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

**Protocol References:**

ASTM = ASTM International

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

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

**Laboratory References:**

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

Sample Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State # 1

Job ID: 890-559-1  
SDG: TE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-559-1	SS01	Solid	04/22/21 11:00	04/22/21 16:21	- 2
890-559-2	SS02	Solid	04/22/21 11:10	04/22/21 16:21	- 0.5
890-559-3	SS03	Solid	04/22/21 11:20	04/22/21 16:21	- 0.5

- 1
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- 10
- 11
- 12
- 13
- 14



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-5334  
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) 281-1111


## Chain of Custody

**Work Order No:**

4/29/2021

Project Manager:		Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:		WSP	Company Name:	XTO Energy
Address:		3300 North A Street	Address:	3104 East Green Street
City, State ZIP:		Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:		(303) 887-2946	Email:	Spencer.Lo@wsp.com Tacoma.Morrissey@wsp.com Dan.Moir@wsp.com

<b>Work Order Comments</b> <b>Program:</b> UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/> <b>State of Project:</b> Reporting: I 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"/>				
--	--	--	--	--

Project Name:	Elk Wallow 11 State #1	Turn Around	ANALYSIS REQUEST	 890-559 Chain of Custody	<div> <div>API: 30-015-37568</div> <div>Spill date: 04/01/2021</div> <div>TAT starts the day received by the lab, if received by 4:30pm</div> </div>
Project Number:	TE012921045	Routine			
P.O. Number:		Rush:			
Sampler's Name:	Spencer Lo	Due Date:			
<b>SAMPLE RECEIPT</b>					
Temperature (°C):	1-8/1-6	Temp Blank: Yes No	Wet Ice: Yes No	Thermometer ID	
Received In tact:	(Yes) No	ZNM-007			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor: -0.2			
Sample Custody Seals:	Yes (No) N/A	Total Containers:			
Number of Containers					
(EPA 8015)					
(EPA 0=8021)					
(EPA 300.0)					

[illegible]

<b>Total</b>	<b>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 SiOz Na Si H Sn U V Zn
<b>TCLP / SPLP 6010:</b>	8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	<b>1631 / 245.1 / 7470 / 7471 :Hg</b>

**Notice: Signature of client, document and delivery must be complete simultaneously or from client's company to Xencoro's affiliates and subcontractors. It assigns standard terms and conditions of service. Xencoro 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 Xencoro. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xencoro, 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 <i>[Signature]</i>	<i>[Signature]</i>	4-22-21 1628			
3					
5					

Revised Date 05/11/18 Rev 2018

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-559-1

SDG Number: TE012921045

Login Number: 559

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: 890-559-1

SDG Number: TE012921045

Login Number: 559

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Midland

List Creation: 04/23/21 02:44 PM

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





## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1083-1

Laboratory Sample Delivery Group: WSPTPE012921045  
Client Project/Site: Elk Wallow 11 State #11  
Revision: 1

**For:**

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

Attn: Dan Moir

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

Authorized for release by:  
9/2/2021 9:16:31 PM

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

#### LINKS

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results through  
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[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: Elk Wallow 11 State #11

Laboratory Job ID: 890-1083-1  
SDG: WSPTPE012921045

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## 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
F2	MS/MSD RPD exceeds control limits
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

Eurofins Xenco, Carlsbad

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

### Job ID: 890-1083-1

Laboratory: Eurofins Xenco, Carlsbad

#### Narrative

#### Job Narrative 890-1083-1

#### REVISION

The report being provided is a revision of the original report sent on 8/18/2021. The report (revision 0) is being revised due to .

#### Receipt

The samples were received on 8/9/2021 5:00 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 4.6°C

#### GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: SW04 (890-1083-16). 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 880-6372 and analytical batch 880-6378 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: PH01A (890-1083-2) and (880-5187-A-1-C). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-5187-A-1-A 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.

#### GC Semi VOA

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 880-6394 and analytical batch 880-6404 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: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: PH01

Lab Sample ID: 890-1083-1

Date Collected: 08/05/21 13:30

Matrix: Solid

Date Received: 08/09/21 17:00

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/17/21 21:14	1
Toluene	0.120		0.00199	mg/Kg		08/11/21 09:46	08/17/21 21:14	1
Ethylbenzene	0.0237		0.00199	mg/Kg		08/11/21 09:46	08/17/21 21:14	1
m-Xylene & p-Xylene	0.170		0.00398	mg/Kg		08/11/21 09:46	08/17/21 21:14	1
o-Xylene	0.00656		0.00199	mg/Kg		08/11/21 09:46	08/17/21 21:14	1
Xylenes, Total	0.177		0.00398	mg/Kg		08/11/21 09:46	08/17/21 21:14	1
Total BTEX	0.320		0.00398	mg/Kg		08/11/21 09:46	08/17/21 21:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	170	S1+	70 - 130	08/11/21 09:46	08/17/21 21:14	1
1,4-Difluorobenzene (Surr)	127		70 - 130	08/11/21 09:46	08/17/21 21:14	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	2100		49.9	mg/Kg		08/11/21 16:32	08/12/21 16:38	1
Diesel Range Organics (Over C10-C28)	2480		49.9	mg/Kg		08/11/21 16:32	08/12/21 16:38	1
Oil Range Organics (Over C28-C36)	315		49.9	mg/Kg		08/11/21 16:32	08/12/21 16:38	1
Total TPH	4900		49.9	mg/Kg		08/11/21 16:32	08/12/21 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	126		70 - 130	08/11/21 16:32	08/12/21 16:38	1
o-Terphenyl	88		70 - 130	08/11/21 16:32	08/12/21 16:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	271		4.95	mg/Kg			08/12/21 18:19	1

Client Sample ID: PH01A

Lab Sample ID: 890-1083-2

Date Collected: 08/05/21 15:10

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/17/21 15:15	08/17/21 21:35	1
Toluene	0.0305		0.00200	mg/Kg		08/17/21 15:15	08/17/21 21:35	1
Ethylbenzene	0.00943		0.00200	mg/Kg		08/17/21 15:15	08/17/21 21:35	1
m-Xylene & p-Xylene	0.103		0.00400	mg/Kg		08/17/21 15:15	08/17/21 21:35	1
o-Xylene	0.00428		0.00200	mg/Kg		08/17/21 15:15	08/17/21 21:35	1
Xylenes, Total	0.107		0.00400	mg/Kg		08/17/21 15:15	08/17/21 21:35	1
Total BTEX	0.147		0.00400	mg/Kg		08/17/21 15:15	08/17/21 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	08/17/21 15:15	08/17/21 21:35	1
1,4-Difluorobenzene (Surr)	100		70 - 130	08/17/21 15:15	08/17/21 21:35	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## Client Sample ID: PH01A

Date Collected: 08/05/21 15:10

Date Received: 08/09/21 17:00

Sample Depth: 4

## Lab Sample ID: 890-1083-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	857		49.8	mg/Kg		08/11/21 16:32	08/12/21 16:59	1
Diesel Range Organics (Over C10-C28)	1340		49.8	mg/Kg		08/11/21 16:32	08/12/21 16:59	1
Oil Range Organics (Over C28-C36)	153		49.8	mg/Kg		08/11/21 16:32	08/12/21 16:59	1
Total TPH	2350		49.8	mg/Kg		08/11/21 16:32	08/12/21 16:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130	08/11/21 16:32	08/12/21 16:59	1
o-Terphenyl	101		70 - 130	08/11/21 16:32	08/12/21 16:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	169		5.04	mg/Kg			08/12/21 18:36	1

## Client Sample ID: PH01B

Date Collected: 08/05/21 15:30

Date Received: 08/09/21 17:00

Sample Depth: 7

## Lab Sample ID: 890-1083-3

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		08/11/21 09:46	08/11/21 15:54	1
Toluene	0.0148		0.00201	mg/Kg		08/11/21 09:46	08/11/21 15:54	1
Ethylbenzene	0.00434		0.00201	mg/Kg		08/11/21 09:46	08/11/21 15:54	1
m-Xylene & p-Xylene	0.0185		0.00402	mg/Kg		08/11/21 09:46	08/11/21 15:54	1
o-Xylene	0.00982		0.00201	mg/Kg		08/11/21 09:46	08/11/21 15:54	1
Xylenes, Total	0.0283		0.00402	mg/Kg		08/11/21 09:46	08/11/21 15:54	1
Total BTEX	0.0475		0.00402	mg/Kg		08/11/21 09:46	08/11/21 15:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	08/11/21 09:46	08/11/21 15:54	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/11/21 09:46	08/11/21 15:54	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 F2	50.0	mg/Kg		08/11/21 16:32	08/12/21 13:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 13:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 13:07	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 13:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	08/11/21 16:32	08/12/21 13:07	1
o-Terphenyl	96		70 - 130	08/11/21 16:32	08/12/21 13:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44.5		4.97	mg/Kg			08/12/21 18:41	1

Eurofins Xenco, Carlsbad



## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: PH01C

Lab Sample ID: 890-1083-4

Date Collected: 08/06/21 11:05

Matrix: Solid

Date Received: 08/09/21 17:00

Sample Depth: 13

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 16:15	1
Toluene	0.00772		0.00200	mg/Kg		08/11/21 09:46	08/11/21 16:15	1
Ethylbenzene	0.00243		0.00200	mg/Kg		08/11/21 09:46	08/11/21 16:15	1
m-Xylene & p-Xylene	0.0101		0.00401	mg/Kg		08/11/21 09:46	08/11/21 16:15	1
o-Xylene	0.00407		0.00200	mg/Kg		08/11/21 09:46	08/11/21 16:15	1
Xylenes, Total	0.0142		0.00401	mg/Kg		08/11/21 09:46	08/11/21 16:15	1
Total BTEX	0.0243		0.00401	mg/Kg		08/11/21 09:46	08/11/21 16:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	08/11/21 09:46	08/11/21 16:15	1
1,4-Difluorobenzene (Surr)	104		70 - 130	08/11/21 09:46	08/11/21 16:15	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		08/11/21 16:32	08/12/21 17:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 17:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 17:41	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 17:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	08/11/21 16:32	08/12/21 17:41	1
o-Terphenyl	98		70 - 130	08/11/21 16:32	08/12/21 17:41	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35.2		4.99	mg/Kg			08/12/21 18:47	1

Client Sample ID: FS01

Lab Sample ID: 890-1083-5

Date Collected: 08/06/21 12:20

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 09:46	08/11/21 16:35	1
Toluene	0.00609		0.00202	mg/Kg		08/11/21 09:46	08/11/21 16:35	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		08/11/21 09:46	08/11/21 16:35	1
m-Xylene & p-Xylene	0.00541		0.00403	mg/Kg		08/11/21 09:46	08/11/21 16:35	1
o-Xylene	0.00327		0.00202	mg/Kg		08/11/21 09:46	08/11/21 16:35	1
Xylenes, Total	0.00868		0.00403	mg/Kg		08/11/21 09:46	08/11/21 16:35	1
Total BTEX	0.0148		0.00403	mg/Kg		08/11/21 09:46	08/11/21 16:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	08/11/21 09:46	08/11/21 16:35	1
1,4-Difluorobenzene (Surr)	102		70 - 130	08/11/21 09:46	08/11/21 16:35	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## Client Sample ID: FS01

## Lab Sample ID: 890-1083-5

Date Collected: 08/06/21 12:20

Matrix: Solid

Date Received: 08/09/21 17:00

Sample Depth: 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	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 18:01	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 18:01	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 18:01	1
Total TPH	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 18:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	08/11/21 16:32	08/12/21 18:01	1
o-Terphenyl	110		70 - 130	08/11/21 16:32	08/12/21 18:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	133		4.95	mg/Kg			08/12/21 18:52	1

## Client Sample ID: FS02

## Lab Sample ID: 890-1083-6

Date Collected: 08/06/21 12:22

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 09:46	08/11/21 16:55	1
Toluene	0.00311		0.00202	mg/Kg		08/11/21 09:46	08/11/21 16:55	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		08/11/21 09:46	08/11/21 16:55	1
m-Xylene & p-Xylene	0.00489		0.00404	mg/Kg		08/11/21 09:46	08/11/21 16:55	1
o-Xylene	0.00202		0.00202	mg/Kg		08/11/21 09:46	08/11/21 16:55	1
Xylenes, Total	0.00691		0.00404	mg/Kg		08/11/21 09:46	08/11/21 16:55	1
Total BTEX	0.0100		0.00404	mg/Kg		08/11/21 09:46	08/11/21 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	08/11/21 09:46	08/11/21 16:55	1
1,4-Difluorobenzene (Surr)	106		70 - 130	08/11/21 09:46	08/11/21 16:55	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		08/11/21 16:32	08/12/21 18:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 18:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 18:22	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	08/11/21 16:32	08/12/21 18:22	1
o-Terphenyl	115		70 - 130	08/11/21 16:32	08/12/21 18:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	284		4.99	mg/Kg			08/12/21 18:58	1

Eurofins Xenco, Carlsbad



## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: FS06

Lab Sample ID: 890-1083-7

Date Collected: 08/06/21 12:40

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 09:46	08/11/21 17:16	1
<b>Toluene</b>	<b>0.00298</b>		0.00200	mg/Kg		08/11/21 09:46	08/11/21 17:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 17:16	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		08/11/21 09:46	08/11/21 17:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 17:16	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		08/11/21 09:46	08/11/21 17:16	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		08/11/21 09:46	08/11/21 17:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	08/11/21 09:46	08/11/21 17:16	1
1,4-Difluorobenzene (Surr)	102		70 - 130	08/11/21 09:46	08/11/21 17:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 18:43	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 18:43	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 18:43	1
Total TPH	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 18:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	08/11/21 16:32	08/12/21 18:43	1
o-Terphenyl	96		70 - 130	08/11/21 16:32	08/12/21 18:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>520</b>		5.00	mg/Kg			08/12/21 19:03	1

Client Sample ID: FS07

Lab Sample ID: 890-1083-8

Date Collected: 08/06/21 12:45

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 09:46	08/11/21 17:36	1
<b>Toluene</b>	<b>0.00236</b>		0.00199	mg/Kg		08/11/21 09:46	08/11/21 17:36	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 17:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 17:36	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 17:36	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 17:36	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 17:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	08/11/21 09:46	08/11/21 17:36	1
1,4-Difluorobenzene (Surr)	106		70 - 130	08/11/21 09:46	08/11/21 17:36	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: FS07

Lab Sample ID: 890-1083-8

Date Collected: 08/06/21 12:45

Matrix: Solid

Date Received: 08/09/21 17:00

Sample Depth: 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	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 19:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 19:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 19:04	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	08/11/21 16:32	08/12/21 19:04	1
o-Terphenyl	99		70 - 130	08/11/21 16:32	08/12/21 19:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	85.1		4.97	mg/Kg			08/12/21 19:20	1

Client Sample ID: FS01

Lab Sample ID: 890-1083-9

Date Collected: 08/06/21 14:05

Matrix: Solid

Date Received: 08/09/21 17:00

Sample Depth: 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 17:57	1
Toluene	0.00229		0.00199	mg/Kg		08/11/21 09:46	08/11/21 17:57	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 17:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 17:57	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 17:57	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 17:57	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 17:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	08/11/21 09:46	08/11/21 17:57	1
1,4-Difluorobenzene (Surr)	101		70 - 130	08/11/21 09:46	08/11/21 17:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 19:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 19:25	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 19:25	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	08/11/21 16:32	08/12/21 19:25	1
o-Terphenyl	93		70 - 130	08/11/21 16:32	08/12/21 19:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	67.6		4.95	mg/Kg			08/12/21 19:25	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: FS03

Lab Sample ID: 890-1083-10

Date Collected: 08/06/21 15:15

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 09:46	08/11/21 18:17	1
Toluene	<0.00198	U	0.00198	mg/Kg		08/11/21 09:46	08/11/21 18:17	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		08/11/21 09:46	08/11/21 18:17	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		08/11/21 09:46	08/11/21 18:17	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		08/11/21 09:46	08/11/21 18:17	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		08/11/21 09:46	08/11/21 18:17	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		08/11/21 09:46	08/11/21 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	08/11/21 09:46	08/11/21 18:17	1
1,4-Difluorobenzene (Surr)	106		70 - 130	08/11/21 09:46	08/11/21 18:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 19:46	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 19:46	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 19:46	1
Total TPH	<49.8	U	49.8	mg/Kg		08/11/21 16:32	08/12/21 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	08/11/21 16:32	08/12/21 19:46	1
o-Terphenyl	95		70 - 130	08/11/21 16:32	08/12/21 19:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	600		5.02	mg/Kg			09/02/21 11:10	1

Client Sample ID: FS04

Lab Sample ID: 890-1083-11

Date Collected: 08/06/21 15:20

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 09:46	08/11/21 20:28	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 20:28	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 20:28	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		08/11/21 09:46	08/11/21 20:28	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 20:28	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		08/11/21 09:46	08/11/21 20:28	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		08/11/21 09:46	08/11/21 20:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	08/11/21 09:46	08/11/21 20:28	1
1,4-Difluorobenzene (Surr)	104		70 - 130	08/11/21 09:46	08/11/21 20:28	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## Client Sample ID: FS04

## Lab Sample ID: 890-1083-11

Date Collected: 08/06/21 15:20

Matrix: Solid

Date Received: 08/09/21 17:00

Sample Depth: 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		08/11/21 16:32	08/12/21 20:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 20:06	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 20:06	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 20:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	08/11/21 16:32	08/12/21 20:06	1
o-Terphenyl	108		70 - 130	08/11/21 16:32	08/12/21 20:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	574		5.02	mg/Kg			09/02/21 11:15	1

## Client Sample ID: FS05

## Lab Sample ID: 890-1083-12

Date Collected: 08/06/21 15:25

Matrix: Solid

Date Received: 08/09/21 17:00

Sample Depth: 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		08/11/21 09:46	08/11/21 20:48	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 20:48	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 20:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 20:48	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 20:48	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 20:48	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 20:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	08/11/21 09:46	08/11/21 20:48	1
1,4-Difluorobenzene (Surr)	102		70 - 130	08/11/21 09:46	08/11/21 20:48	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		08/11/21 16:32	08/12/21 20:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 20:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 20:27	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 20:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	08/11/21 16:32	08/12/21 20:27	1
o-Terphenyl	95		70 - 130	08/11/21 16:32	08/12/21 20:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	539		5.05	mg/Kg			08/12/21 19:52	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: SW01

Lab Sample ID: 890-1083-13

Date Collected: 08/06/21 15:35

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 09:46	08/11/21 21:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 21:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 21:09	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		08/11/21 09:46	08/11/21 21:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 21:09	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		08/11/21 09:46	08/11/21 21:09	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		08/11/21 09:46	08/11/21 21:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	08/11/21 09:46	08/11/21 21:09	1
1,4-Difluorobenzene (Surr)	106		70 - 130	08/11/21 09:46	08/11/21 21:09	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		08/11/21 16:32	08/12/21 20:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 20:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 20:48	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 16:32	08/12/21 20:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	08/11/21 16:32	08/12/21 20:48	1
o-Terphenyl	109		70 - 130	08/11/21 16:32	08/12/21 20:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	43.1		4.98	mg/Kg			08/12/21 19:58	1

Client Sample ID: SW02

Lab Sample ID: 890-1083-14

Date Collected: 08/06/21 15:37

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 09:46	08/11/21 21:29	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 21:29	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 21:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 21:29	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 21:29	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 21:29	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 21:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	08/11/21 09:46	08/11/21 21:29	1
1,4-Difluorobenzene (Surr)	105		70 - 130	08/11/21 09:46	08/11/21 21:29	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## Client Sample ID: SW02

## Lab Sample ID: 890-1083-14

Date Collected: 08/06/21 15:37

Matrix: Solid

Date Received: 08/09/21 17:00

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	<49.9	U	49.9	mg/Kg		08/12/21 10:01	08/14/21 15:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/12/21 10:01	08/14/21 15:45	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/12/21 10:01	08/14/21 15:45	1
Total TPH	<49.9	U	49.9	mg/Kg		08/12/21 10:01	08/14/21 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130	08/12/21 10:01	08/14/21 15:45	1
o-Terphenyl	130		70 - 130	08/12/21 10:01	08/14/21 15:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	185		4.95	mg/Kg			08/12/21 20:03	1

## Client Sample ID: SW03

## Lab Sample ID: 890-1083-15

Date Collected: 08/06/21 15:40

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 09:46	08/11/21 21:49	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 21:49	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 21:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 21:49	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:46	08/11/21 21:49	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 21:49	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/11/21 09:46	08/11/21 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	08/11/21 09:46	08/11/21 21:49	1
1,4-Difluorobenzene (Surr)	101		70 - 130	08/11/21 09:46	08/11/21 21:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		08/12/21 10:01	08/14/21 16:06	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/12/21 10:01	08/14/21 16:06	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/12/21 10:01	08/14/21 16:06	1
Total TPH	<49.8	U	49.8	mg/Kg		08/12/21 10:01	08/14/21 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	08/12/21 10:01	08/14/21 16:06	1
o-Terphenyl	119		70 - 130	08/12/21 10:01	08/14/21 16:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	304		4.95	mg/Kg			08/12/21 20:09	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: SW04

Lab Sample ID: 890-1083-16

Date Collected: 08/06/21 15:45

Matrix: Solid

Date Received: 08/09/21 17:00

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		08/11/21 11:25	08/11/21 13:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 11:25	08/11/21 13:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 11:25	08/11/21 13:01	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		08/11/21 11:25	08/11/21 13:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 11:25	08/11/21 13:01	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		08/11/21 11:25	08/11/21 13:01	1
Total BTEX	<0.00401	U	0.00401	mg/Kg		08/11/21 11:25	08/11/21 13:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	155	S1+	70 - 130	08/11/21 11:25	08/11/21 13:01	1
1,4-Difluorobenzene (Surr)	128		70 - 130	08/11/21 11:25	08/11/21 13:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 15:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 15:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 15:32	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 15:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	08/11/21 10:19	08/11/21 15:32	1
o-Terphenyl	120		70 - 130	08/11/21 10:19	08/11/21 15:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	431	F1	5.05	mg/Kg			08/11/21 17:13	1

Eurofins Xenco, Carlsbad

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## 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)
880-5187-A-1-A MS	Matrix Spike	127	136 S1+
880-5187-A-1-B MSD	Matrix Spike Duplicate	113	106
890-1077-A-16-B MS	Matrix Spike	275 S1+	106
890-1077-A-16-C MSD	Matrix Spike Duplicate	152 S1+	128
890-1083-1	PH01	170 S1+	127
890-1083-2	PH01A	107	100
890-1083-3	PH01B	95	96
890-1083-4	PH01C	101	104
890-1083-5	FS01	102	102
890-1083-6	FS02	108	106
890-1083-7	FS06	111	102
890-1083-8	FS07	107	106
890-1083-9	FS01	113	101
890-1083-10	FS03	118	106
890-1083-11	FS04	112	104
890-1083-12	FS05	115	102
890-1083-13	SW01	112	106
890-1083-14	SW02	113	105
890-1083-15	SW03	132 S1+	101
890-1083-16	SW04	155 S1+	128
LCS 880-6315/1-A	Lab Control Sample	133 S1+	129
LCS 880-6372/1-A	Lab Control Sample	106	96
LCS 880-6673/1-A	Lab Control Sample	95	100
LCSD 880-6315/2-A	Lab Control Sample Dup	128	123
LCSD 880-6372/2-A	Lab Control Sample Dup	104	98
LCSD 880-6673/2-A	Lab Control Sample Dup	108	108
MB 880-6281/5-A	Method Blank	80	98
MB 880-6315/5-A	Method Blank	83	107
MB 880-6372/5-A	Method Blank	119	105
MB 880-6673/5-A	Method Blank	97	106

## Surrogate Legend

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
890-1083-1 MS	PH01		
890-1083-1 MSD	PH01		

## Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Eurofins Xenco, Carlsbad

# Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

**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)
880-4997-A-1-E MS	Matrix Spike	91	95
880-4997-A-1-F MSD	Matrix Spike Duplicate	90	96
880-5005-A-1-G MS	Matrix Spike	92	94
880-5005-A-1-H MSD	Matrix Spike Duplicate	88	93
890-1083-1	PH01	126	88
890-1083-2	PH01A	110	101
890-1083-3	PH01B	93	96
890-1083-3 MS	PH01B	96	86
890-1083-3 MSD	PH01B	82	76
890-1083-4	PH01C	96	98
890-1083-5	FS01	108	110
890-1083-6	FS02	112	115
890-1083-7	FS06	92	96
890-1083-8	FS07	98	99
890-1083-9	FS01	91	93
890-1083-10	FS03	95	95
890-1083-11	FS04	107	108
890-1083-12	FS05	93	95
890-1083-13	SW01	108	109
890-1083-14	SW02	116	130
890-1083-15	SW03	107	119
890-1083-16	SW04	104	120
LCS 880-6382/2-A	Lab Control Sample	78	80
LCS 880-6415/2-A	Lab Control Sample	84	80
LCS 880-6430/2-A	Lab Control Sample	100	109
LCSD 880-6382/3-A	Lab Control Sample Dup	83	87
LCSD 880-6415/3-A	Lab Control Sample Dup	89	83
LCSD 880-6430/3-A	Lab Control Sample Dup	94	98
MB 880-6382/1-A	Method Blank	83	98
MB 880-6415/1-A	Method Blank	107	109
MB 880-6430/1-A	Method Blank	111	130

**Surrogate Legend**

1CO = 1-Chlorooctane  
OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: MB 880-6281/5-A

Matrix: Solid

Analysis Batch: 6278

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6281

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/10/21 08:43	08/10/21 12:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/10/21 08:43	08/10/21 12:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/10/21 08:43	08/10/21 12:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/10/21 08:43	08/10/21 12:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/10/21 08:43	08/10/21 12:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/10/21 08:43	08/10/21 12:59	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/10/21 08:43	08/10/21 12:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130	08/10/21 08:43	08/10/21 12:59	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/10/21 08:43	08/10/21 12:59	1

Lab Sample ID: MB 880-6315/5-A

Matrix: Solid

Analysis Batch: 6278

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6315

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/10/21 11:34	08/11/21 02:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/10/21 11:34	08/11/21 02:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/10/21 11:34	08/11/21 02:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/10/21 11:34	08/11/21 02:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/10/21 11:34	08/11/21 02:21	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/10/21 11:34	08/11/21 02:21	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/10/21 11:34	08/11/21 02:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130	08/10/21 11:34	08/11/21 02:21	1
1,4-Difluorobenzene (Surr)	107		70 - 130	08/10/21 11:34	08/11/21 02:21	1

Lab Sample ID: LCS 880-6315/1-A

Matrix: Solid

Analysis Batch: 6278

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6315

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1255		mg/Kg		126	70 - 130
Toluene	0.100	0.1164		mg/Kg		116	70 - 130
Ethylbenzene	0.100	0.1218		mg/Kg		122	70 - 130
m-Xylene & p-Xylene	0.200	0.2407		mg/Kg		120	70 - 130
o-Xylene	0.100	0.1207		mg/Kg		121	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130
1,4-Difluorobenzene (Surr)	129		70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: LCSD 880-6315/2-A

Matrix: Solid

Analysis Batch: 6278

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6315

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1249		mg/Kg		125	70 - 130	0	35
Toluene	0.100	0.1135		mg/Kg		113	70 - 130	3	35
Ethylbenzene	0.100	0.1136		mg/Kg		114	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2249		mg/Kg		112	70 - 130	7	35
o-Xylene	0.100	0.1136		mg/Kg		114	70 - 130	6	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	128		70 - 130
1,4-Difluorobenzene (Surr)	123		70 - 130

Lab Sample ID: 890-1077-A-16-B MS

Matrix: Solid

Analysis Batch: 6278

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6315

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U F1	0.0994	0.06775	F1	mg/Kg		68	70 - 130		
Toluene	<0.00202	U F2 F1	0.0994	0.06321	F1	mg/Kg		64	70 - 130		
Ethylbenzene	<0.00202	U	0.0994	0.07514		mg/Kg		76	70 - 130		
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1446		mg/Kg		73	70 - 130		
o-Xylene	<0.00202	U	0.0994	0.07608		mg/Kg		77	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	275	S1+	70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 890-1077-A-16-C MSD

Matrix: Solid

Analysis Batch: 6278

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6315

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U F1	0.0998	0.08572		mg/Kg		86	70 - 130	23	35
Toluene	<0.00202	U F2 F1	0.0998	0.09496	F2	mg/Kg		95	70 - 130	40	35
Ethylbenzene	<0.00202	U	0.0998	0.09295		mg/Kg		93	70 - 130	21	35
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1820		mg/Kg		91	70 - 130	23	35
o-Xylene	<0.00202	U	0.0998	0.09425		mg/Kg		94	70 - 130	21	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	152	S1+	70 - 130
1,4-Difluorobenzene (Surr)	128		70 - 130

Lab Sample ID: MB 880-6372/5-A

Matrix: Solid

Analysis Batch: 6378

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6372

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 14:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 14:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 14:44	1

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: MB 880-6372/5-A

Matrix: Solid

Analysis Batch: 6378

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6372

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/11/21 09:46	08/11/21 14:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:46	08/11/21 14:44	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/11/21 09:46	08/11/21 14:44	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/11/21 09:46	08/11/21 14:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	08/11/21 09:46	08/11/21 14:44	1
1,4-Difluorobenzene (Surr)	105		70 - 130	08/11/21 09:46	08/11/21 14:44	1

Lab Sample ID: LCS 880-6372/1-A

Matrix: Solid

Analysis Batch: 6378

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08662		mg/Kg		87	70 - 130
Toluene	0.100	0.08557		mg/Kg		86	70 - 130
Ethylbenzene	0.100	0.08852		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1866		mg/Kg		93	70 - 130
o-Xylene	0.100	0.09283		mg/Kg		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 880-6372/2-A

Matrix: Solid

Analysis Batch: 6378

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6372

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09891		mg/Kg		99	70 - 130	13	35
Toluene	0.100	0.08932		mg/Kg		89	70 - 130	4	35
Ethylbenzene	0.100	0.09118		mg/Kg		91	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1903		mg/Kg		95	70 - 130	2	35
o-Xylene	0.100	0.09464		mg/Kg		95	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-1083-1 MS

Matrix: Solid

Analysis Batch: 6378

Client Sample ID: PH01

Prep Type: Total/NA

Prep Batch: 6372

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.0998	0.009146		mg/Kg			
Toluene	0.120		0.0998	<0.00200	U	mg/Kg			
Ethylbenzene	0.0237		0.0998	<0.00200	U	mg/Kg			
m-Xylene & p-Xylene	0.170		0.200	0.009463		mg/Kg			

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: 890-1083-1 MS

Matrix: Solid

Analysis Batch: 6378

Client Sample ID: PH01

Prep Type: Total/NA

Prep Batch: 6372

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
o-Xylene	0.00656		0.0998	0.002881		mg/Kg			

Surrogate	MS %Recovery	MS Qualifier	Limits
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4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Lab Sample ID: 890-1083-1 MSD

Matrix: Solid

Analysis Batch: 6378

Client Sample ID: PH01

Prep Type: Total/NA

Prep Batch: 6372

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00199	U	0.101	0.01367		mg/Kg					
Toluene	0.120		0.101	0.1755		mg/Kg					
Ethylbenzene	0.0237		0.101	<0.00202	U	mg/Kg					
m-Xylene & p-Xylene	0.170		0.202	0.03551		mg/Kg					
o-Xylene	0.00656		0.101	<0.00202	U	mg/Kg					

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

1,4-Difluorobenzene (Surr)

Lab Sample ID: MB 880-6673/5-A

Matrix: Solid

Analysis Batch: 6616

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6673

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/17/21 15:15	08/17/21 18:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/17/21 15:15	08/17/21 18:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/17/21 15:15	08/17/21 18:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/17/21 15:15	08/17/21 18:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/17/21 15:15	08/17/21 18:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/17/21 15:15	08/17/21 18:06	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/17/21 15:15	08/17/21 18:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	08/17/21 15:15	08/17/21 18:06	1
1,4-Difluorobenzene (Surr)	106		70 - 130	08/17/21 15:15	08/17/21 18:06	1

Lab Sample ID: LCS 880-6673/1-A

Matrix: Solid

Analysis Batch: 6616

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6673

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09037		mg/Kg		90	70 - 130
Toluene	0.100	0.1002		mg/Kg		100	70 - 130
Ethylbenzene	0.100	0.09688		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	0.200	0.1732		mg/Kg		87	70 - 130
o-Xylene	0.100	0.08430		mg/Kg		84	70 - 130

Eurofins Xenco, Carlsbad



## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: LCSD 880-6673/2-A

Matrix: Solid

Analysis Batch: 6616

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6673

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09869		mg/Kg		99	70 - 130	9	35
Toluene	0.100	0.1116		mg/Kg		112	70 - 130	11	35
Ethylbenzene	0.100	0.1017		mg/Kg		102	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1928		mg/Kg		96	70 - 130	11	35
o-Xylene	0.100	0.09761		mg/Kg		98	70 - 130	15	35

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

Lab Sample ID: 880-5187-A-1-A MS

Matrix: Solid

Analysis Batch: 6616

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.101	0.1073		mg/Kg		105	70 - 130		
Toluene	<0.00202	U	0.101	0.1191		mg/Kg		118	70 - 130		
Ethylbenzene	<0.00202	U	0.101	0.1178		mg/Kg		117	70 - 130		
m-Xylene & p-Xylene	<0.00403	U	0.202	0.2154		mg/Kg		107	70 - 130		
o-Xylene	<0.00202	U	0.101	0.1010		mg/Kg		100	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	127		70 - 130
1,4-Difluorobenzene (Surr)	136	S1+	70 - 130

Lab Sample ID: 880-5187-A-1-B MSD

Matrix: Solid

Analysis Batch: 6616

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6673

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.07874		mg/Kg		78	70 - 130	31	35
Toluene	<0.00202	U	0.0994	0.09288		mg/Kg		93	70 - 130	25	35
Ethylbenzene	<0.00202	U	0.0994	0.09191		mg/Kg		92	70 - 130	25	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1542		mg/Kg		78	70 - 130	33	35
o-Xylene	<0.00202	U	0.0994	0.07655		mg/Kg		77	70 - 130	28	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: MB 880-6382/1-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6382

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		08/11/21 10:19	08/11/21 12:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 12:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 12:00	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 12:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	08/11/21 10:19	08/11/21 12:00	1
o-Terphenyl	98		70 - 130	08/11/21 10:19	08/11/21 12:00	1

Lab Sample ID: LCS 880-6382/2-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	782.0		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	1000	711.3		mg/Kg		71	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: LCSD 880-6382/3-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6382

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	823.7		mg/Kg		82	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	1000	775.5		mg/Kg		78	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 880-4997-A-1-E MS

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6382

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	995	922.4		mg/Kg		91	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	995	969.6		mg/Kg		97	70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: 880-4997-A-1-E MS

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6382

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 880-4997-A-1-F MSD

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6382

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	922.8		mg/Kg		91	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	961.3		mg/Kg		96	70 - 130	1	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: MB 880-6415/1-A

Matrix: Solid

Analysis Batch: 6436

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6415

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		08/11/21 16:32	08/12/21 12:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 12:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 12:03	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 16:32	08/12/21 12:03	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1-Chlorooctane	107		70 - 130	08/11/21 16:32	08/12/21 12:03	1
o-Terphenyl	109		70 - 130	08/11/21 16:32	08/12/21 12:03	1

Lab Sample ID: LCS 880-6415/2-A

Matrix: Solid

Analysis Batch: 6436

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6415

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	805.3		mg/Kg		81	70 - 130
Diesel Range Organics (Over C10-C28)	1000	859.6		mg/Kg		86	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	80		70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: LCSD 880-6415/3-A

Matrix: Solid

Analysis Batch: 6436

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6415

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	893.0		mg/Kg		89	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	1000	898.5		mg/Kg		90	70 - 130	4	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	89		70 - 130						
o-Terphenyl	83		70 - 130						

Lab Sample ID: 890-1083-3 MS

Matrix: Solid

Analysis Batch: 6436

Client Sample ID: PH01B

Prep Type: Total/NA

Prep Batch: 6415

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 F2	995	1016		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	903.1		mg/Kg		89	70 - 130		
Surrogate	%Recovery	MS Qualifier	Limits								
1-Chlorooctane	96		70 - 130								
o-Terphenyl	86		70 - 130								

Lab Sample ID: 890-1083-3 MSD

Matrix: Solid

Analysis Batch: 6436

Client Sample ID: PH01B

Prep Type: Total/NA

Prep Batch: 6415

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 F2	998	806.5	F2	mg/Kg		81	70 - 130	23	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	801.5		mg/Kg		78	70 - 130	12	20
Surrogate	%Recovery	MSD Qualifier	Limits								
1-Chlorooctane	82		70 - 130								
o-Terphenyl	76		70 - 130								

Lab Sample ID: MB 880-6430/1-A

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6430

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		08/12/21 10:01	08/14/21 11:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/12/21 10:01	08/14/21 11:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/12/21 10:01	08/14/21 11:17	1
Total TPH	<50.0	U	50.0	mg/Kg		08/12/21 10:01	08/14/21 11:17	1

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: MB 880-6430/1-A

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6430

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	08/12/21 10:01	08/14/21 11:17	1
o-Terphenyl	130		70 - 130	08/12/21 10:01	08/14/21 11:17	1

Lab Sample ID: LCS 880-6430/2-A

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6430

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	871.6		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	861.9		mg/Kg		86	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: LCSD 880-6430/3-A

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6430

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	894.4		mg/Kg		89	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	786.5		mg/Kg		79	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 880-5005-A-1-G MS

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6430

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	995	883.2		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	995	817.7		mg/Kg		79	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	94		70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: 880-5005-A-1-H MSD

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6430

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	862.3		mg/Kg		85	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	789.0		mg/Kg		76	70 - 130	4	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	88		70 - 130								
o-Terphenyl	93		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6394/1-A

Matrix: Solid

Analysis Batch: 6404

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			08/11/21 16:59	1

Lab Sample ID: LCS 880-6394/2-A

Matrix: Solid

Analysis Batch: 6404

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	251.6		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-6394/3-A

Matrix: Solid

Analysis Batch: 6404

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	255.5		mg/Kg		102	90 - 110	2	20

Lab Sample ID: 890-1083-16 MS

Matrix: Solid

Analysis Batch: 6404

Client Sample ID: SW04

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	431	F1	253	632.6	F1	mg/Kg		80	90 - 110

Lab Sample ID: 890-1083-16 MSD

Matrix: Solid

Analysis Batch: 6404

Client Sample ID: SW04

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	431	F1	253	649.2	F1	mg/Kg		87	90 - 110	3	20

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

Lab Sample ID: MB 880-6324/1-A

Matrix: Solid

Analysis Batch: 6439

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			08/12/21 17:30	1

Lab Sample ID: LCS 880-6324/2-A

Matrix: Solid

Analysis Batch: 6439

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	258.2		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-6324/3-A

Matrix: Solid

Analysis Batch: 6439

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	258.6		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-1083-7 MS

Matrix: Solid

Analysis Batch: 6439

Client Sample ID: FS06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	520		250	763.2		mg/Kg		97	90 - 110

Lab Sample ID: 890-1083-7 MSD

Matrix: Solid

Analysis Batch: 6439

Client Sample ID: FS06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	520		250	752.7		mg/Kg		93	90 - 110	1	20

Lab Sample ID: MB 880-7406/1-A

Matrix: Solid

Analysis Batch: 7417

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			09/01/21 22:21	1

Lab Sample ID: LCS 880-7406/2-A

Matrix: Solid

Analysis Batch: 7417

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	260.0		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-7406/3-A

Matrix: Solid

Analysis Batch: 7417

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	259.5		mg/Kg		104	90 - 110	0	20

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-1203-A-1-B MS

Matrix: Solid

Analysis Batch: 7417

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	12.1		249	272.8		mg/Kg		105	90 - 110

Lab Sample ID: 890-1203-A-1-C MSD

Matrix: Solid

Analysis Batch: 7417

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	12.1		249	272.9		mg/Kg		105	90 - 110	0	20

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## GC VOA

## Analysis Batch: 6278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-16	SW04	Total/NA	Solid	8021B	6315
MB 880-6281/5-A	Method Blank	Total/NA	Solid	8021B	6281
MB 880-6315/5-A	Method Blank	Total/NA	Solid	8021B	6315
LCS 880-6315/1-A	Lab Control Sample	Total/NA	Solid	8021B	6315
LCSD 880-6315/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6315
890-1077-A-16-B MS	Matrix Spike	Total/NA	Solid	8021B	6315
890-1077-A-16-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6315

## Prep Batch: 6281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6281/5-A	Method Blank	Total/NA	Solid	5035	

## Prep Batch: 6315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-16	SW04	Total/NA	Solid	5035	
MB 880-6315/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6315/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6315/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1077-A-16-B MS	Matrix Spike	Total/NA	Solid	5035	
890-1077-A-16-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Prep Batch: 6372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-1	PH01	Total/NA	Solid	5035	
890-1083-3	PH01B	Total/NA	Solid	5035	
890-1083-4	PH01C	Total/NA	Solid	5035	
890-1083-5	FS01	Total/NA	Solid	5035	
890-1083-6	FS02	Total/NA	Solid	5035	
890-1083-7	FS06	Total/NA	Solid	5035	
890-1083-8	FS07	Total/NA	Solid	5035	
890-1083-9	FS01	Total/NA	Solid	5035	
890-1083-10	FS03	Total/NA	Solid	5035	
890-1083-11	FS04	Total/NA	Solid	5035	
890-1083-12	FS05	Total/NA	Solid	5035	
890-1083-13	SW01	Total/NA	Solid	5035	
890-1083-14	SW02	Total/NA	Solid	5035	
890-1083-15	SW03	Total/NA	Solid	5035	
MB 880-6372/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6372/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6372/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1083-1 MS	PH01	Total/NA	Solid	5035	
890-1083-1 MSD	PH01	Total/NA	Solid	5035	

## Analysis Batch: 6378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-3	PH01B	Total/NA	Solid	8021B	6372
890-1083-4	PH01C	Total/NA	Solid	8021B	6372
890-1083-5	FS01	Total/NA	Solid	8021B	6372
890-1083-6	FS02	Total/NA	Solid	8021B	6372
890-1083-7	FS06	Total/NA	Solid	8021B	6372
890-1083-8	FS07	Total/NA	Solid	8021B	6372

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## GC VOA (Continued)

## Analysis Batch: 6378 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-9	FS01	Total/NA	Solid	8021B	6372
890-1083-10	FS03	Total/NA	Solid	8021B	6372
890-1083-11	FS04	Total/NA	Solid	8021B	6372
890-1083-12	FS05	Total/NA	Solid	8021B	6372
890-1083-13	SW01	Total/NA	Solid	8021B	6372
890-1083-14	SW02	Total/NA	Solid	8021B	6372
890-1083-15	SW03	Total/NA	Solid	8021B	6372
MB 880-6372/5-A	Method Blank	Total/NA	Solid	8021B	6372
LCS 880-6372/1-A	Lab Control Sample	Total/NA	Solid	8021B	6372
LCSD 880-6372/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6372
890-1083-1 MS	PH01	Total/NA	Solid	8021B	6372
890-1083-1 MSD	PH01	Total/NA	Solid	8021B	6372

## Analysis Batch: 6616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-1	PH01	Total/NA	Solid	8021B	6372
890-1083-2	PH01A	Total/NA	Solid	8021B	6673
MB 880-6673/5-A	Method Blank	Total/NA	Solid	8021B	6673
LCS 880-6673/1-A	Lab Control Sample	Total/NA	Solid	8021B	6673
LCSD 880-6673/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6673
880-5187-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	6673
880-5187-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6673

## Prep Batch: 6673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-2	PH01A	Total/NA	Solid	5035	
MB 880-6673/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6673/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6673/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5187-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-5187-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## GC Semi VOA

## Analysis Batch: 6361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-16	SW04	Total/NA	Solid	8015B NM	6382
MB 880-6382/1-A	Method Blank	Total/NA	Solid	8015B NM	6382
LCS 880-6382/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6382
LCSD 880-6382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6382
880-4997-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	6382
880-4997-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6382

## Prep Batch: 6382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-16	SW04	Total/NA	Solid	8015NM Prep	
MB 880-6382/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6382/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-4997-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-4997-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: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## GC Semi VOA

## Prep Batch: 6415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-1	PH01	Total/NA	Solid	8015NM Prep	
890-1083-2	PH01A	Total/NA	Solid	8015NM Prep	
890-1083-3	PH01B	Total/NA	Solid	8015NM Prep	
890-1083-4	PH01C	Total/NA	Solid	8015NM Prep	
890-1083-5	FS01	Total/NA	Solid	8015NM Prep	
890-1083-6	FS02	Total/NA	Solid	8015NM Prep	
890-1083-7	FS06	Total/NA	Solid	8015NM Prep	
890-1083-8	FS07	Total/NA	Solid	8015NM Prep	
890-1083-9	FS01	Total/NA	Solid	8015NM Prep	
890-1083-10	FS03	Total/NA	Solid	8015NM Prep	
890-1083-11	FS04	Total/NA	Solid	8015NM Prep	
890-1083-12	FS05	Total/NA	Solid	8015NM Prep	
890-1083-13	SW01	Total/NA	Solid	8015NM Prep	
MB 880-6415/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6415/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6415/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1083-3 MS	PH01B	Total/NA	Solid	8015NM Prep	
890-1083-3 MSD	PH01B	Total/NA	Solid	8015NM Prep	

## Prep Batch: 6430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-14	SW02	Total/NA	Solid	8015NM Prep	
890-1083-15	SW03	Total/NA	Solid	8015NM Prep	
MB 880-6430/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6430/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6430/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-5005-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-5005-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 6436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-1	PH01	Total/NA	Solid	8015B NM	6415
890-1083-2	PH01A	Total/NA	Solid	8015B NM	6415
890-1083-3	PH01B	Total/NA	Solid	8015B NM	6415
890-1083-4	PH01C	Total/NA	Solid	8015B NM	6415
890-1083-5	FS01	Total/NA	Solid	8015B NM	6415
890-1083-6	FS02	Total/NA	Solid	8015B NM	6415
890-1083-7	FS06	Total/NA	Solid	8015B NM	6415
890-1083-8	FS07	Total/NA	Solid	8015B NM	6415
890-1083-9	FS01	Total/NA	Solid	8015B NM	6415
890-1083-10	FS03	Total/NA	Solid	8015B NM	6415
890-1083-11	FS04	Total/NA	Solid	8015B NM	6415
890-1083-12	FS05	Total/NA	Solid	8015B NM	6415
890-1083-13	SW01	Total/NA	Solid	8015B NM	6415
MB 880-6415/1-A	Method Blank	Total/NA	Solid	8015B NM	6415
LCS 880-6415/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6415
LCSD 880-6415/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6415
890-1083-3 MS	PH01B	Total/NA	Solid	8015B NM	6415
890-1083-3 MSD	PH01B	Total/NA	Solid	8015B NM	6415

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## GC Semi VOA

## Analysis Batch: 6567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-14	SW02	Total/NA	Solid	8015B NM	6430
890-1083-15	SW03	Total/NA	Solid	8015B NM	6430
MB 880-6430/1-A	Method Blank	Total/NA	Solid	8015B NM	6430
LCS 880-6430/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6430
LCSD 880-6430/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6430
880-5005-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	6430
880-5005-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6430

## HPLC/IC

## Leach Batch: 6324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-1	PH01	Soluble	Solid	DI Leach	
890-1083-2	PH01A	Soluble	Solid	DI Leach	
890-1083-3	PH01B	Soluble	Solid	DI Leach	
890-1083-4	PH01C	Soluble	Solid	DI Leach	
890-1083-5	FS01	Soluble	Solid	DI Leach	
890-1083-6	FS02	Soluble	Solid	DI Leach	
890-1083-7	FS06	Soluble	Solid	DI Leach	
890-1083-8	FS07	Soluble	Solid	DI Leach	
890-1083-9	FS01	Soluble	Solid	DI Leach	
890-1083-12	FS05	Soluble	Solid	DI Leach	
890-1083-13	SW01	Soluble	Solid	DI Leach	
890-1083-14	SW02	Soluble	Solid	DI Leach	
890-1083-15	SW03	Soluble	Solid	DI Leach	
MB 880-6324/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6324/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6324/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1083-7 MS	FS06	Soluble	Solid	DI Leach	
890-1083-7 MSD	FS06	Soluble	Solid	DI Leach	

## Leach Batch: 6394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-16	SW04	Soluble	Solid	DI Leach	
MB 880-6394/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6394/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6394/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1083-16 MS	SW04	Soluble	Solid	DI Leach	
890-1083-16 MSD	SW04	Soluble	Solid	DI Leach	

## Analysis Batch: 6404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-16	SW04	Soluble	Solid	300.0	6394
MB 880-6394/1-A	Method Blank	Soluble	Solid	300.0	6394
LCS 880-6394/2-A	Lab Control Sample	Soluble	Solid	300.0	6394
LCSD 880-6394/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6394
890-1083-16 MS	SW04	Soluble	Solid	300.0	6394
890-1083-16 MSD	SW04	Soluble	Solid	300.0	6394

Eurofins Xenco, Carlsbad

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## HPLC/IC

## Analysis Batch: 6439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-1	PH01	Soluble	Solid	300.0	6324
890-1083-2	PH01A	Soluble	Solid	300.0	6324
890-1083-3	PH01B	Soluble	Solid	300.0	6324
890-1083-4	PH01C	Soluble	Solid	300.0	6324
890-1083-5	FS01	Soluble	Solid	300.0	6324
890-1083-6	FS02	Soluble	Solid	300.0	6324
890-1083-7	FS06	Soluble	Solid	300.0	6324
890-1083-8	FS07	Soluble	Solid	300.0	6324
890-1083-9	FS01	Soluble	Solid	300.0	6324
890-1083-12	FS05	Soluble	Solid	300.0	6324
890-1083-13	SW01	Soluble	Solid	300.0	6324
890-1083-14	SW02	Soluble	Solid	300.0	6324
890-1083-15	SW03	Soluble	Solid	300.0	6324
MB 880-6324/1-A	Method Blank	Soluble	Solid	300.0	6324
LCS 880-6324/2-A	Lab Control Sample	Soluble	Solid	300.0	6324
LCSD 880-6324/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6324
890-1083-7 MS	FS06	Soluble	Solid	300.0	6324
890-1083-7 MSD	FS06	Soluble	Solid	300.0	6324

## Leach Batch: 7406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-10	FS03	Soluble	Solid	DI Leach	
890-1083-11	FS04	Soluble	Solid	DI Leach	
MB 880-7406/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-7406/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7406/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1203-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1203-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 7417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1083-10	FS03	Soluble	Solid	300.0	7406
890-1083-11	FS04	Soluble	Solid	300.0	7406
MB 880-7406/1-A	Method Blank	Soluble	Solid	300.0	7406
LCS 880-7406/2-A	Lab Control Sample	Soluble	Solid	300.0	7406
LCSD 880-7406/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7406
890-1203-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	7406
890-1203-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	7406

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: PH01

Lab Sample ID: 890-1083-1

Date Collected: 08/05/21 13:30

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6616	08/17/21 21:14	KL	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 16:38	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 18:19	CH	XEN MID

Client Sample ID: PH01A

Lab Sample ID: 890-1083-2

Date Collected: 08/05/21 15:10

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6673	08/17/21 15:15	KL	XEN MID
Total/NA	Analysis	8021B		1	6616	08/17/21 21:35	KL	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 16:59	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 18:36	CH	XEN MID

Client Sample ID: PH01B

Lab Sample ID: 890-1083-3

Date Collected: 08/05/21 15:30

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 15:54	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 13:07	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 18:41	CH	XEN MID

Client Sample ID: PH01C

Lab Sample ID: 890-1083-4

Date Collected: 08/06/21 11:05

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 16:15	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 17:41	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 18:47	CH	XEN MID

Eurofins Xenco, Carlsbad



## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

## Client Sample ID: FS01

Date Collected: 08/06/21 12:20

Date Received: 08/09/21 17:00

## Lab Sample ID: 890-1083-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 16:35	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 18:01	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 18:52	CH	XEN MID

## Client Sample ID: FS02

Date Collected: 08/06/21 12:22

Date Received: 08/09/21 17:00

## Lab Sample ID: 890-1083-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 16:55	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 18:22	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 18:58	CH	XEN MID

## Client Sample ID: FS06

Date Collected: 08/06/21 12:40

Date Received: 08/09/21 17:00

## Lab Sample ID: 890-1083-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 17:16	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 18:43	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 19:03	CH	XEN MID

## Client Sample ID: FS07

Date Collected: 08/06/21 12:45

Date Received: 08/09/21 17:00

## Lab Sample ID: 890-1083-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 17:36	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 19:04	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 19:20	CH	XEN MID

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: FS01

Lab Sample ID: 890-1083-9

Date Collected: 08/06/21 14:05

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 17:57	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 19:25	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 19:25	CH	XEN MID

Client Sample ID: FS03

Lab Sample ID: 890-1083-10

Date Collected: 08/06/21 15:15

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 18:17	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 19:46	AJ	XEN MID
Soluble	Leach	DI Leach			7406	09/01/21 15:32	CH	XEN MID
Soluble	Analysis	300.0		1	7417	09/02/21 11:10	CH	XEN MID

Client Sample ID: FS04

Lab Sample ID: 890-1083-11

Date Collected: 08/06/21 15:20

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 20:28	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 20:06	AJ	XEN MID
Soluble	Leach	DI Leach			7406	09/01/21 15:32	CH	XEN MID
Soluble	Analysis	300.0		1	7417	09/02/21 11:15	CH	XEN MID

Client Sample ID: FS05

Lab Sample ID: 890-1083-12

Date Collected: 08/06/21 15:25

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 20:48	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 20:27	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 19:52	CH	XEN MID

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Client Sample ID: SW01

Lab Sample ID: 890-1083-13

Date Collected: 08/06/21 15:35

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 21:09	MR	XEN MID
Total/NA	Prep	8015NM Prep			6415	08/11/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6436	08/12/21 20:48	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 19:58	CH	XEN MID

Client Sample ID: SW02

Lab Sample ID: 890-1083-14

Date Collected: 08/06/21 15:37

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 21:29	MR	XEN MID
Total/NA	Prep	8015NM Prep			6430	08/12/21 10:01	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6567	08/14/21 15:45	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 20:03	CH	XEN MID

Client Sample ID: SW03

Lab Sample ID: 890-1083-15

Date Collected: 08/06/21 15:40

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6372	08/11/21 09:46	MR	XEN MID
Total/NA	Analysis	8021B		1	6378	08/11/21 21:49	MR	XEN MID
Total/NA	Prep	8015NM Prep			6430	08/12/21 10:01	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6567	08/14/21 16:06	AJ	XEN MID
Soluble	Leach	DI Leach			6324	08/10/21 12:01	CH	XEN MID
Soluble	Analysis	300.0		1	6439	08/12/21 20:09	CH	XEN MID

Client Sample ID: SW04

Lab Sample ID: 890-1083-16

Date Collected: 08/06/21 15:45

Matrix: Solid

Date Received: 08/09/21 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6315	08/11/21 11:25	MR	XEN MID
Total/NA	Analysis	8021B		1	6278	08/11/21 13:01	MR	XEN MID
Total/NA	Prep	8015NM Prep			6382	08/11/21 10:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6361	08/11/21 15:32	AJ	XEN MID
Soluble	Leach	DI Leach			6394	08/11/21 11:55	SC	XEN MID
Soluble	Analysis	300.0		1	6404	08/11/21 17:13	AJ	XEN MID

## Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

## Method Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

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

### Protocol References:

ASTM = ASTM International

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

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

### Laboratory References:

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

Eurofins Xenco, Carlsbad

## Sample Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #11

Job ID: 890-1083-1  
SDG: WSPTPE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1083-1	PH01	Solid	08/05/21 13:30	08/09/21 17:00	1
890-1083-2	PH01A	Solid	08/05/21 15:10	08/09/21 17:00	4
890-1083-3	PH01B	Solid	08/05/21 15:30	08/09/21 17:00	7
890-1083-4	PH01C	Solid	08/06/21 11:05	08/09/21 17:00	13
890-1083-5	FS01	Solid	08/06/21 12:20	08/09/21 17:00	4
890-1083-6	FS02	Solid	08/06/21 12:22	08/09/21 17:00	4
890-1083-7	FS06	Solid	08/06/21 12:40	08/09/21 17:00	4
890-1083-8	FS07	Solid	08/06/21 12:45	08/09/21 17:00	4
890-1083-9	FS01	Solid	08/06/21 14:05	08/09/21 17:00	7
890-1083-10	FS03	Solid	08/06/21 15:15	08/09/21 17:00	6
890-1083-11	FS04	Solid	08/06/21 15:20	08/09/21 17:00	6
890-1083-12	FS05	Solid	08/06/21 15:25	08/09/21 17:00	6
890-1083-13	SW01	Solid	08/06/21 15:35	08/09/21 17:00	0 - 4
890-1083-14	SW02	Solid	08/06/21 15:37	08/09/21 17:00	0 - 4
890-1083-15	SW03	Solid	08/06/21 15:40	08/09/21 17:00	0 - 4
890-1083-16	SW04	Solid	08/06/21 15:45	08/09/21 17:00	0 - 4

## Eurofins Xenco, Carlsbad

1089 N Canal St.  
Carlsbad, 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	Carrier Tracking No(s)	COC No:							
Client Contact:	Phone:		Kramer, Jessica		890-343 1							
Shipping/Receiving			E-Mail: jessica.kramer@eurofins.com	State of Origin	Page 1 of 2							
Company			Accreditations Required (See note):	Job #:	890-1083-1							
Eurofins Xenco			NEIAP - Louisiana, NEIAP - Texas									
Address	Due Date Requested		<b>Analysis Requested</b>									
1211 W Florida Ave.	8/10/2021											
City	TAT Requested (days):											
Midland												
State, Zip												
TX, 79701												
Phone	PO #:											
432-704-5440(Tel)												
Email:	WO #:											
Project Name	Project #:											
Elk Wallow 11 State #11	89000004											
Site	SSOW#:											
<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</b> (W=Water, S=solid, O=soil, BT=Tissue, A=Air)	<b>Field Filtered Sample (Yes or No)</b>	<b>Perform MS/MSD (Yes or No)</b>	<b>8015MOD_NM/8015NM_S_Prep Full TPH</b>	<b>300_ORGFM_28D/DI_LEACH Chloride</b>	<b>8021B/5035FP_Calc BTEX</b>	<b>Total Number of containers</b>	<b>Special Instructions/Note:</b>
PH03 (890-1083-1)	8/5/21	13:30	Mountain	Solid		X	X	X			1	
PH03 (890-1083-2)	8/5/21	15:10	Mountain	Solid		X	X	X			1	
PH03 (890-1083-3)	8/5/21	15:30	Mountain	Solid		X	X	X			1	
PH03 (890-1083-4)	8/6/21	11:05	Mountain	Solid		X	X	X			1	
FS01 (890-1083-5)	8/6/21	12:20	Mountain	Solid		X	X	X			1	
FS02 (890-1083-6)	8/6/21	12:22	Mountain	Solid		X	X	X			1	
FS06 (890-1083-7)	8/6/21	12:40	Mountain	Solid		X	X	X			1	
FS07 (890-1083-8)	8/6/21	12:45	Mountain	Solid		X	X	X			1	
FS01 (890-1083-9)	8/6/21	14:05	Mountain	Solid		X	X	X			1	
<p>Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method, analyte &amp; accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.</p>												
<b>Possible Hazard Identification</b>												
<b>Unconfirmed</b>												
Deliverable Requested I, II, III, IV, Other (specify)	Primary Deliverable Rank 2		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>									
			<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
<b>Empty Kit Relinquished by</b>												
Relinquished by:	Date/Time	Company	Time		Method of Shipment							
Relinquished by:	Date/Time	Company										
Relinquished by:	Date/Time	Company										
Custody Seals Intact:	Custody Seal No	Cooler Temperature(s) °C and Other Remarks										
Δ Yes    Δ No												



## Chain of Custody Record

[illegible]

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1083-1

SDG Number: WSPTPE012921045

**Login Number: 1083****List Number: 1****Creator: Clifton, Cloe****List Source: Eurofins Xenco, Carlsbad**

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

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1083-1  
SDG Number: WSPTPE012921045**Login Number: 1083****List Number: 2****Creator: Kramer, Jessica****List Source: Eurofins Xenco, Midland****List Creation: 08/11/21 11:17 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 Xenco, Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-1085-1

Laboratory Sample Delivery Group: WSPTE012921045

Client Project/Site: Elk Wallow 11 State #1

Revision: 1

For:

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

Attn: Dan Moir

Authorized for release by:  
9/2/2021 9:40:30 AM

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: Elk Wallow 11 State #1

Laboratory Job ID: 890-1085-1  
SDG: WSPTE012921045

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

Qualifier	Qualifier Description
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: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

**Job ID: 890-1085-1**

**Laboratory: Eurofins Xenco, Carlsbad**

### Narrative

#### Job Narrative 890-1085-1

#### REVISION

The report being provided is a revision of the original report sent on 8/11/2021. The report (revision 0) is being revised due to .

#### **Receipt**

The sample was received on 8/10/2021 10:31 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°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**

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 880-6394 and analytical batch 880-6404 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: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

Client Sample ID: SW07

Lab Sample ID: 890-1085-1

Date Collected: 08/09/21 15:20

Matrix: Solid

Date Received: 08/10/21 10:31

Sample Depth: 0 - 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		08/11/21 10:00	08/11/21 13:22	1
Toluene	<0.00198	U	0.00198	mg/Kg		08/11/21 10:00	08/11/21 13:22	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		08/11/21 10:00	08/11/21 13:22	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		08/11/21 10:00	08/11/21 13:22	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		08/11/21 10:00	08/11/21 13:22	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		08/11/21 10:00	08/11/21 13:22	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		08/11/21 10:00	08/11/21 13:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	08/11/21 10:00	08/11/21 13:22	1
1,4-Difluorobenzene (Surr)	103		70 - 130	08/11/21 10:00	08/11/21 13:22	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		08/11/21 10:19	08/11/21 14:08	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 10:19	08/11/21 14:08	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 10:19	08/11/21 14:08	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 10:19	08/11/21 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	08/11/21 10:19	08/11/21 14:08	1
o-Terphenyl	129		70 - 130	08/11/21 10:19	08/11/21 14:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	165		4.98	mg/Kg			08/11/21 17:28	1

Eurofins Xenco, Carlsbad

# Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

## 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)
880-4958-A-21-A MS	Matrix Spike	104	107
880-4958-A-21-B MSD	Matrix Spike Duplicate	110	107
890-1085-1	SW07	116	103
LCS 880-6333/1-A	Lab Control Sample	105	107
LCSD 880-6333/2-A	Lab Control Sample Dup	102	106
MB 880-6333/5-A	Method Blank	104	95
<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)
880-4997-A-1-E MS	Matrix Spike	91	95
880-4997-A-1-F MSD	Matrix Spike Duplicate	90	96
890-1085-1	SW07	112	129
LCS 880-6382/2-A	Lab Control Sample	78	80
LCSD 880-6382/3-A	Lab Control Sample Dup	83	87
MB 880-6382/1-A	Method Blank	83	98
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

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

Lab Sample ID: MB 880-6333/5-A

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6333

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/11/21 10:00	08/11/21 12:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	08/11/21 10:00	08/11/21 12:40	1
1,4-Difluorobenzene (Surr)	95		70 - 130	08/11/21 10:00	08/11/21 12:40	1

Lab Sample ID: LCS 880-6333/1-A

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6333

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1053		mg/Kg		105	70 - 130
Toluene	0.100	0.09743		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.09402		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1894		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09516		mg/Kg		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-6333/2-A

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6333

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1003		mg/Kg		100	70 - 130	5	35
Toluene	0.100	0.09037		mg/Kg		90	70 - 130	8	35
Ethylbenzene	0.100	0.08715		mg/Kg		87	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1739		mg/Kg		87	70 - 130	9	35
o-Xylene	0.100	0.08669		mg/Kg		87	70 - 130	9	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 880-4958-A-21-A MS

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6333

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.101	0.08737		mg/Kg		86	70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

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

Lab Sample ID: 880-4958-A-21-A MS

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6333

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.101	0.07826		mg/Kg		77	70 - 130
Ethylbenzene	<0.00200	U	0.101	0.07367		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.202	0.1484		mg/Kg		73	70 - 130
o-Xylene	<0.00200	U	0.101	0.07529		mg/Kg		74	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	104		70 - 130						
1,4-Difluorobenzene (Surr)	107		70 - 130						

Lab Sample ID: 880-4958-A-21-B MSD

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6333

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	0.09616		mg/Kg		96	70 - 130	10	35
Toluene	<0.00200	U	0.0994	0.08656		mg/Kg		87	70 - 130	10	35
Ethylbenzene	<0.00200	U	0.0994	0.08180		mg/Kg		82	70 - 130	10	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1639		mg/Kg		82	70 - 130	10	35
o-Xylene	<0.00200	U	0.0994	0.08303		mg/Kg		83	70 - 130	10	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	110		70 - 130								
1,4-Difluorobenzene (Surr)	107		70 - 130								

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

Lab Sample ID: MB 880-6382/1-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6382

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		08/11/21 10:19	08/11/21 12:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 12:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 12:00	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 12:00	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			08/11/21 10:19	08/11/21 12:00	1
o-Terphenyl	98		70 - 130			08/11/21 10:19	08/11/21 12:00	1

Lab Sample ID: LCS 880-6382/2-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	782.0		mg/Kg		78	70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

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

Lab Sample ID: LCS 880-6382/2-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (Over C10-C28)	1000	711.3		mg/Kg		71	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: LCSD 880-6382/3-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6382

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	823.7		mg/Kg		82	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	1000	775.5		mg/Kg		78	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 880-4997-A-1-E MS

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6382

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	995	922.4		mg/Kg		91	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	995	969.6		mg/Kg		97	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 880-4997-A-1-F MSD

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6382

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	922.8		mg/Kg		91	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	961.3		mg/Kg		96	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	96		70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6394/1-A

Matrix: Solid

Analysis Batch: 6404

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			08/11/21 16:59	1

Lab Sample ID: LCS 880-6394/2-A

Matrix: Solid

Analysis Batch: 6404

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	251.6		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-6394/3-A

Matrix: Solid

Analysis Batch: 6404

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	255.5		mg/Kg		102	90 - 110	2	20

Lab Sample ID: 890-1083-A-16-F MS

Matrix: Solid

Analysis Batch: 6404

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	431	F1	253	632.6	F1	mg/Kg		80	90 - 110

Lab Sample ID: 890-1083-A-16-G MSD

Matrix: Solid

Analysis Batch: 6404

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	431	F1	253	649.2	F1	mg/Kg		87	90 - 110	3	20

Eurofins Xenco, Carlsbad

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

## GC VOA

## Prep Batch: 6333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1085-1	SW07	Total/NA	Solid	5035	
MB 880-6333/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6333/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6333/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-4958-A-21-A MS	Matrix Spike	Total/NA	Solid	5035	
880-4958-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 6365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1085-1	SW07	Total/NA	Solid	8021B	6333
MB 880-6333/5-A	Method Blank	Total/NA	Solid	8021B	6333
LCS 880-6333/1-A	Lab Control Sample	Total/NA	Solid	8021B	6333
LCSD 880-6333/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6333
880-4958-A-21-A MS	Matrix Spike	Total/NA	Solid	8021B	6333
880-4958-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6333

## GC Semi VOA

## Analysis Batch: 6361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1085-1	SW07	Total/NA	Solid	8015B NM	6382
MB 880-6382/1-A	Method Blank	Total/NA	Solid	8015B NM	6382
LCS 880-6382/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6382
LCSD 880-6382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6382
880-4997-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	6382
880-4997-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6382

## Prep Batch: 6382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1085-1	SW07	Total/NA	Solid	8015NM Prep	
MB 880-6382/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6382/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-4997-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-4997-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## HPLC/IC

## Leach Batch: 6394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1085-1	SW07	Soluble	Solid	DI Leach	
MB 880-6394/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6394/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6394/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1083-A-16-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1083-A-16-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 6404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1085-1	SW07	Soluble	Solid	300.0	6394
MB 880-6394/1-A	Method Blank	Soluble	Solid	300.0	6394
LCS 880-6394/2-A	Lab Control Sample	Soluble	Solid	300.0	6394

Eurofins Xenco, Carlsbad



## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

## HPLC/IC (Continued)

## Analysis Batch: 6404 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-6394/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6394
890-1083-A-16-F MS	Matrix Spike	Soluble	Solid	300.0	6394
890-1083-A-16-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6394

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

Client Sample ID: SW07

Lab Sample ID: 890-1085-1

Date Collected: 08/09/21 15:20

Matrix: Solid

Date Received: 08/10/21 10:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6333	08/11/21 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	6365	08/11/21 13:22	KL	XEN MID
Total/NA	Prep	8015NM Prep			6382	08/11/21 10:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6361	08/11/21 14:08	AJ	XEN MID
Soluble	Leach	DI Leach			6394	08/11/21 11:55	SC	XEN MID
Soluble	Analysis	300.0		1	6404	08/11/21 17:28	AJ	XEN MID

## Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

## Method Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

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

**Protocol References:**

ASTM = ASTM International

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

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

**Laboratory References:**

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

Eurofins Xenco, Carlsbad

Sample Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1085-1  
SDG: WSPTE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1085-1	SW07	Solid	08/09/21 15:20	08/10/21 10:31	0 - 7

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 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) 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: \_\_\_\_\_

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

Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> CRC <input type="checkbox"/> Superfund <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"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	Elk Wallow 11 State #1	Turn Around	
Project Number:	WSPTE012921045	Routine <input type="checkbox"/>	
P.O. Number:	4/1/2021	Rush: 24hr	
Sampler's Name:	Alexis Castro	Due Date: 8-11-21	

SAMPLE RECEIPT	Temp Blank:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Wet Ice:	<input checked="" type="radio"/> Yes <input type="radio"/> No
	Temperature (°C):	3.5/3.6	Thermometer ID	TW-001
	Received Intact:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Correction Factor:	-0.2
	Cooler Custody Seals:	Yes <input checked="" type="radio"/> No <input type="radio"/> N/A	Total Containers:	
	Sample Custody Seals:	Yes <input checked="" type="radio"/> No <input type="radio"/> N/A		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 505-3334  
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) 973-3827  
Hobbs, NM (575-382-7550)

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


Page 1 of 1

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## Chain of Custody

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

<b>Work Order Comments</b> <b>Program:</b> UST/PT <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/> <b>State of Project:</b> Reporting Level I <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"/>				
---	--	--	--	--

Project Name:		Elk Wallow 11 State #1		Turn Around		<b>ANALYSIS REQUEST</b>										Work Order Notes	
Project Number:		WSPT E012921045		Routine <input type="checkbox"/>												CC: 1598041001	
P.O. Number:		4/1/2021		Rush: 24hr												AFE: PA.2020.02331.EXP.01	
Sampler's Name:		Alexis Castro		Due Date: 8-11-21												API: 30-015-37588	
<b>SAMPLE RECEIPT</b>				Temp Blank:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Wet Ice:	<input checked="" type="radio"/> Yes <input type="radio"/> No	INC: NAPP2110461994									
Temperature (°C):		3.6/3.6		Thermometer ID		TAT starts the day received by the lab, if received by 4:30pm											
Received In tact:		Yes No		TW-001													
Cooler Custody Seals:		Yes <input checked="" type="radio"/> No <input type="radio"/> N/A		Correction Factor:		-0.2											
Sample Custody Seals:		Yes <input checked="" type="radio"/> No <input type="radio"/> N/A		Total Containers:													
Number of Containers																	
(EPA 8015)																	
(EPA 0=8021)																	
(EPA 300.0)																	
																	
890-1085 Chain of Custody																	

[illegible][illegible]

**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 \$5 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
1 <i>Wm. L. L. L.</i>	<i>Anna Byers</i>	10/10/10	2 <i>Anna Byers</i>	<i>Wm. L. L. L.</i>	8.10.21.10
3			4		
5			6		

Revised Date 05/11/10 Rev. 2018





## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1085-1

SDG Number: WSPTE012921045

**Login Number: 1085****List Number: 1****Creator: Clifton, Cloe****List Source: Eurofins Xenco, Carlsbad**

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

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1085-1

SDG Number: WSPTE012921045

**Login Number: 1085****List Number: 2****Creator: Kramer, Jessica****List Source: Eurofins Xenco, Midland****List Creation: 08/11/21 11:17 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 Xenco, Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-1086-1

Laboratory Sample Delivery Group: WSPTE012921045

Client Project/Site: Elk Wallow 11 State #1

Revision: 1

#### For:

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

Attn: Dan Moir

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

Authorized for release by:  
9/2/2021 9:47:32 AM

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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[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: Elk Wallow 11 State #1

Laboratory Job ID: 890-1086-1  
SDG: WSPTE012921045

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

Qualifier	Qualifier Description
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

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## Case Narrative

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

**Job ID: 890-1086-1**

**Laboratory: Eurofins Xenco, Carlsbad**

### Narrative

#### Job Narrative 890-1086-1

#### REVISION

The report being provided is a revision of the original report sent on 8/15/2021. The report (revision 0) is being revised due to .

#### **Receipt**

The samples were received on 8/10/2021 10:31 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 3.6°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**

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 880-6394 and analytical batch 880-6404 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: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

Client Sample ID: SW05

Lab Sample ID: 890-1086-1

Date Collected: 08/09/21 09:50

Matrix: Solid

Date Received: 08/10/21 10:31

Sample Depth: 0 - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/11/21 10:00	08/11/21 13:43	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/11/21 10:00	08/11/21 13:43	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/11/21 10:00	08/11/21 13:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/11/21 10:00	08/11/21 13:43	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/11/21 10:00	08/11/21 13:43	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/11/21 10:00	08/11/21 13:43	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/11/21 10:00	08/11/21 13:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	08/11/21 10:00	08/11/21 13:43	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/11/21 10:00	08/11/21 13:43	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		08/12/21 10:01	08/14/21 16:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/12/21 10:01	08/14/21 16:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/12/21 10:01	08/14/21 16:49	1
Total TPH	<50.0	U	50.0	mg/Kg		08/12/21 10:01	08/14/21 16:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	08/12/21 10:01	08/14/21 16:49	1
o-Terphenyl	100		70 - 130	08/12/21 10:01	08/14/21 16:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	105		4.95	mg/Kg			08/11/21 17:33	1

Client Sample ID: SW06

Lab Sample ID: 890-1086-2

Date Collected: 08/09/21 14:30

Matrix: Solid

Date Received: 08/10/21 10:31

Sample Depth: 0 - 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		08/11/21 10:00	08/11/21 14:03	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 14:03	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 14:03	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		08/11/21 10:00	08/11/21 14:03	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 14:03	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		08/11/21 10:00	08/11/21 14:03	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		08/11/21 10:00	08/11/21 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	08/11/21 10:00	08/11/21 14:03	1
1,4-Difluorobenzene (Surr)	102		70 - 130	08/11/21 10:00	08/11/21 14:03	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

Client Sample ID: SW06

Lab Sample ID: 890-1086-2

Date Collected: 08/09/21 14:30

Matrix: Solid

Date Received: 08/10/21 10:31

Sample Depth: 0 - 7

## 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		08/11/21 10:19	08/11/21 14:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 14:29	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 14:29	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	08/11/21 10:19	08/11/21 14:29	1
o-Terphenyl	111		70 - 130	08/11/21 10:19	08/11/21 14:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.7		5.04	mg/Kg			08/11/21 17:38	1

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# Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

## 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)
880-4958-A-21-A MS	Matrix Spike	104	107
880-4958-A-21-B MSD	Matrix Spike Duplicate	110	107
890-1086-1	SW05	108	98
890-1086-2	SW06	126	102
LCS 880-6333/1-A	Lab Control Sample	105	107
LCSD 880-6333/2-A	Lab Control Sample Dup	102	106
MB 880-6333/5-A	Method Blank	104	95
<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)
880-4997-A-1-E MS	Matrix Spike	91	95
880-4997-A-1-F MSD	Matrix Spike Duplicate	90	96
880-5005-A-1-G MS	Matrix Spike	92	94
880-5005-A-1-H MSD	Matrix Spike Duplicate	88	93
890-1086-1	SW05	94	100
890-1086-2	SW06	101	111
LCS 880-6382/2-A	Lab Control Sample	78	80
LCS 880-6430/2-A	Lab Control Sample	100	109
LCSD 880-6382/3-A	Lab Control Sample Dup	83	87
LCSD 880-6430/3-A	Lab Control Sample Dup	94	98
MB 880-6382/1-A	Method Blank	83	98
MB 880-6430/1-A	Method Blank	111	130
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

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

Lab Sample ID: MB 880-6333/5-A

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6333

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/11/21 10:00	08/11/21 12:40	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/11/21 10:00	08/11/21 12:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	08/11/21 10:00	08/11/21 12:40	1
1,4-Difluorobenzene (Surr)	95		70 - 130	08/11/21 10:00	08/11/21 12:40	1

Lab Sample ID: LCS 880-6333/1-A

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6333

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1053		mg/Kg		105	70 - 130
Toluene	0.100	0.09743		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.09402		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1894		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09516		mg/Kg		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-6333/2-A

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6333

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1003		mg/Kg		100	70 - 130	5	35
Toluene	0.100	0.09037		mg/Kg		90	70 - 130	8	35
Ethylbenzene	0.100	0.08715		mg/Kg		87	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1739		mg/Kg		87	70 - 130	9	35
o-Xylene	0.100	0.08669		mg/Kg		87	70 - 130	9	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 880-4958-A-21-A MS

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6333

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.101	0.08737		mg/Kg		86	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

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

Lab Sample ID: 880-4958-A-21-A MS

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6333

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.101	0.07826		mg/Kg		77	70 - 130
Ethylbenzene	<0.00200	U	0.101	0.07367		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.202	0.1484		mg/Kg		73	70 - 130
o-Xylene	<0.00200	U	0.101	0.07529		mg/Kg		74	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	104		70 - 130						
1,4-Difluorobenzene (Surr)	107		70 - 130						

Lab Sample ID: 880-4958-A-21-B MSD

Matrix: Solid

Analysis Batch: 6365

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6333

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	0.09616		mg/Kg		96	70 - 130	10	35
Toluene	<0.00200	U	0.0994	0.08656		mg/Kg		87	70 - 130	10	35
Ethylbenzene	<0.00200	U	0.0994	0.08180		mg/Kg		82	70 - 130	10	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1639		mg/Kg		82	70 - 130	10	35
o-Xylene	<0.00200	U	0.0994	0.08303		mg/Kg		83	70 - 130	10	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	110		70 - 130								
1,4-Difluorobenzene (Surr)	107		70 - 130								

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

Lab Sample ID: MB 880-6382/1-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6382

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		08/11/21 10:19	08/11/21 12:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 12:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 12:00	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 10:19	08/11/21 12:00	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			08/11/21 10:19	08/11/21 12:00	1
o-Terphenyl	98		70 - 130			08/11/21 10:19	08/11/21 12:00	1

Lab Sample ID: LCS 880-6382/2-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	782.0		mg/Kg		78	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

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

Lab Sample ID: LCS 880-6382/2-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6382

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	711.3		mg/Kg		71	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits								
1-Chlorooctane	78		70 - 130								
o-Terphenyl	80		70 - 130								

Lab Sample ID: LCSD 880-6382/3-A

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6382

Top Bottom 0001											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	823.7		mg/Kg		82	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	775.5		mg/Kg		78	70 - 130	9	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
1-Chlorooctane	83		70 - 130								
o-Terphenyl	87		70 - 130								

Lab Sample ID: 880-4997-A-1-E MS

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6382

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.		
	Result	Qualifier	Added	Result	Qualifier				Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	995	922.4		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	969.6		mg/Kg		97	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	91		70 - 130								
o-Terphenyl	95		70 - 130								

Lab Sample ID: 880-4997-A-1-F MSD

Matrix: Solid

Analysis Batch: 6361

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6382

Top Bottom 0001											
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	922.8		mg/Kg		91	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	961.3		mg/Kg		96	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	90		70 - 130								
o-Terphenyl	96		70 - 130								

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

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

Lab Sample ID: MB 880-6430/1-A

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6430

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		08/12/21 10:01	08/14/21 11:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/12/21 10:01	08/14/21 11:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/12/21 10:01	08/14/21 11:17	1
Total TPH	<50.0	U	50.0	mg/Kg		08/12/21 10:01	08/14/21 11:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	08/12/21 10:01	08/14/21 11:17	1
o-Terphenyl	130		70 - 130	08/12/21 10:01	08/14/21 11:17	1

Lab Sample ID: LCS 880-6430/2-A

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6430

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	871.6		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	861.9		mg/Kg		86	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: LCSD 880-6430/3-A

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6430

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	894.4		mg/Kg		89	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	786.5		mg/Kg		79	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 880-5005-A-1-G MS

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6430

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	995	883.2		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	995	817.7		mg/Kg		79	70 - 130

Eurofins Xenco, Carlsbad



## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

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

Lab Sample ID: 880-5005-A-1-G MS

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6430

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: 880-5005-A-1-H MSD

Matrix: Solid

Analysis Batch: 6567

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6430

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	862.3		mg/Kg		85	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	789.0		mg/Kg		76	70 - 130	4	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	93		70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6394/1-A

Matrix: Solid

Analysis Batch: 6404

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			08/11/21 16:59	1

Lab Sample ID: LCS 880-6394/2-A

Matrix: Solid

Analysis Batch: 6404

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	251.6		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-6394/3-A

Matrix: Solid

Analysis Batch: 6404

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	255.5		mg/Kg		102	90 - 110	2	20

Lab Sample ID: 890-1083-A-16-F MS

Matrix: Solid

Analysis Batch: 6404

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	431	F1	253	632.6	F1	mg/Kg		80	90 - 110

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

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

Lab Sample ID: 890-1083-A-16-G MSD

Matrix: Solid

Analysis Batch: 6404

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	431	F1	253	649.2	F1	mg/Kg		87	90 - 110	3	20

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

## GC VOA

## Prep Batch: 6333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1086-1	SW05	Total/NA	Solid	5035	
890-1086-2	SW06	Total/NA	Solid	5035	
MB 880-6333/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6333/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6333/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-4958-A-21-A MS	Matrix Spike	Total/NA	Solid	5035	
880-4958-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 6365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1086-1	SW05	Total/NA	Solid	8021B	6333
890-1086-2	SW06	Total/NA	Solid	8021B	6333
MB 880-6333/5-A	Method Blank	Total/NA	Solid	8021B	6333
LCS 880-6333/1-A	Lab Control Sample	Total/NA	Solid	8021B	6333
LCSD 880-6333/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6333
880-4958-A-21-A MS	Matrix Spike	Total/NA	Solid	8021B	6333
880-4958-A-21-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6333

## GC Semi VOA

## Analysis Batch: 6361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1086-2	SW06	Total/NA	Solid	8015B NM	6382
MB 880-6382/1-A	Method Blank	Total/NA	Solid	8015B NM	6382
LCS 880-6382/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6382
LCSD 880-6382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6382
880-4997-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	6382
880-4997-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6382

## Prep Batch: 6382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1086-2	SW06	Total/NA	Solid	8015NM Prep	
MB 880-6382/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6382/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-4997-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-4997-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Prep Batch: 6430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1086-1	SW05	Total/NA	Solid	8015NM Prep	
MB 880-6430/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6430/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6430/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-5005-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-5005-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 6567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1086-1	SW05	Total/NA	Solid	8015B NM	6430
MB 880-6430/1-A	Method Blank	Total/NA	Solid	8015B NM	6430

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

## GC Semi VOA (Continued)

## Analysis Batch: 6567 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-6430/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6430
LCSD 880-6430/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6430
880-5005-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	6430
880-5005-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6430

## HPLC/IC

## Leach Batch: 6394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1086-1	SW05	Soluble	Solid	DI Leach	
890-1086-2	SW06	Soluble	Solid	DI Leach	
MB 880-6394/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6394/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6394/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1083-A-16-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1083-A-16-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 6404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1086-1	SW05	Soluble	Solid	300.0	6394
890-1086-2	SW06	Soluble	Solid	300.0	6394
MB 880-6394/1-A	Method Blank	Soluble	Solid	300.0	6394
LCS 880-6394/2-A	Lab Control Sample	Soluble	Solid	300.0	6394
LCSD 880-6394/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6394
890-1083-A-16-F MS	Matrix Spike	Soluble	Solid	300.0	6394
890-1083-A-16-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6394

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

Client Sample ID: SW05

Date Collected: 08/09/21 09:50

Date Received: 08/10/21 10:31

Lab Sample ID: 890-1086-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6333	08/11/21 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	6365	08/11/21 13:43	KL	XEN MID
Total/NA	Prep	8015NM Prep			6430	08/12/21 10:01	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6567	08/14/21 16:49	AJ	XEN MID
Soluble	Leach	DI Leach			6394	08/11/21 11:55	SC	XEN MID
Soluble	Analysis	300.0		1	6404	08/11/21 17:33	AJ	XEN MID

Client Sample ID: SW06

Date Collected: 08/09/21 14:30

Date Received: 08/10/21 10:31

Lab Sample ID: 890-1086-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6333	08/11/21 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	6365	08/11/21 14:03	KL	XEN MID
Total/NA	Prep	8015NM Prep			6382	08/11/21 10:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6361	08/11/21 14:29	AJ	XEN MID
Soluble	Leach	DI Leach			6394	08/11/21 11:55	SC	XEN MID
Soluble	Analysis	300.0		1	6404	08/11/21 17:38	AJ	XEN MID

## Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

## Method Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

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

### Protocol References:

ASTM = ASTM International

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

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

### Laboratory References:

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

Eurofins Xenco, Carlsbad



Sample Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1086-1  
SDG: WSPTE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1086-1	SW05	Solid	08/09/21 09:50	08/10/21 10:31	0 - 7
890-1086-2	SW06	Solid	08/09/21 14:30	08/10/21 10:31	0 - 7

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



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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: \_\_\_\_\_

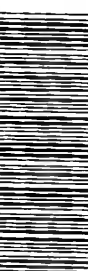
www.xenco.com Page 1 of 1

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

Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> TRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:
Reporting Level: <input type="checkbox"/> Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: <input type="checkbox"/> EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

## ANALYSIS REQUEST

## Work Order Notes



890-1086 Chain of Custody

CC: 1598041001  
AFE: PA.2020.02331.EXP.01  
API: 30-015-37588  
INC: NAPP2110461994

Project Name:	Elk Wallow 11 State #1	Turn Around	<input checked="" type="checkbox"/>
Project Number:	WSPTE012921045	Routine	<input checked="" type="checkbox"/>
P.O. Number:	4/1/2021	Rush:	
Sampler's Name:	Alexis Castro	Due Date:	

SAMPLE RECEIPT		
Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temperature (°C):	3.5/3.4	Thermometer ID
Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Total Containers:
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	

Number of Containers	
TPH (EPA 8015)	
BTEX (EPA 0=8021)	
Chloride (EPA 300.0)	

TAT starts the day received by the lab, if received by 4:30pm
Sample Comments
composite
composite

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Analysis Request	Work Order Notes
SW01	S	8/9/2021	0950	0-7'	1	X	X	X		
SW02	S	8/9/2021	1430	0-7'	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
<i>[Signature]</i>	<i>[Signature]</i>	8/10/21 10:00	<i>[Signature]</i>	<i>[Signature]</i>	8-10-21 10:01



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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: \_\_\_\_\_

www.xenco.com Page \_\_\_\_\_ of \_\_\_\_\_

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

<b>Program:</b> <input checked="" type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
<b>State of Project:</b>	
<b>Reporting Level:</b> <input type="checkbox"/> Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/>	<b>Deliverables:</b> <input type="checkbox"/> EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

## ANALYSIS REQUEST

## Work Order Notes

Project Name:	Elk Wallow 11 State #1	Turn Around	<input checked="" type="checkbox"/>
Project Number:	WSPTE012921045	Routine	<input checked="" type="checkbox"/>
P.O. Number:	4/1/2021	Rush:	
Sampler's Name:	Alexis Castro	Due Date:	

Number of Containers		
TPH (EPA 8015)		
BTEX (EPA 0=8021)		
Chloride (EPA 300.0)		



890-1086 Chain of Custody

CC: 1598041001
AFE: PA.2020.02331.EXP.01
API: 30-015-37588
INC: NAPP2110461994
TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SW01	S	8/9/2021	0950	0-7'	1	X	X	X	composite
SW02	S	8/9/2021	1430	0-7'	1	X	X	X	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 sample 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>	8/10/21 @ 1000	<i>[Signature]</i>	<i>[Signature]</i>	8-10-21 1031

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Environment Testing  
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9/2/2021 (Rev. 1)

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1086-1

SDG Number: WSPTE012921045

**Login Number: 1086****List Number: 1****Creator: Clifton, Cloe****List Source: Eurofins Xenco, Carlsbad**

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

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1086-1

SDG Number: WSPTE012921045

**Login Number: 1086****List Number: 2****Creator: Kramer, Jessica****List Source: Eurofins Xenco, Midland****List Creation: 08/11/21 11:17 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 Xenco, Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-1105-1

Laboratory Sample Delivery Group: TEO12921045

Client Project/Site: Elk Wallow 11 State #1

**For:**

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

Attn: Dan Moir

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

Authorized for release by:  
8/16/2021 7:32:42 PM

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

#### LINKS

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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: Elk Wallow 11 State #1

Laboratory Job ID: 890-1105-1  
SDG: TEO12921045

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

Qualifier	Qualifier Description
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: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

Job ID: 890-1105-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative	
	Job Narrative 890-1105-1

Receipt

The sample was received on 8/13/2021 9:30 AM. Unless otherwise noted below, the sample 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

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.

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

Client Sample ID: FS12

Lab Sample ID: 890-1105-1

Date Collected: 08/12/21 15:47

Matrix: Solid

Date Received: 08/13/21 09:30

Sample Depth: - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 15:05	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 15:05	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 15:05	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/16/21 09:50	08/16/21 15:05	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 15:05	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/16/21 09:50	08/16/21 15:05	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/16/21 09:50	08/16/21 15:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	08/16/21 09:50	08/16/21 15:05	1
1,4-Difluorobenzene (Surr)	103		70 - 130	08/16/21 09:50	08/16/21 15:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		08/16/21 08:50	08/16/21 16:45	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/16/21 08:50	08/16/21 16:45	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/16/21 08:50	08/16/21 16:45	1
Total TPH	<49.8	U	49.8	mg/Kg		08/16/21 08:50	08/16/21 16:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	08/16/21 08:50	08/16/21 16:45	1
o-Terphenyl	104		70 - 130	08/16/21 08:50	08/16/21 16:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	67.8		4.99	mg/Kg			08/16/21 15:11	1

Eurofins Xenco, Carlsbad

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

## 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)
880-5117-A-1-B MS	Matrix Spike	110	104
880-5117-A-1-C MSD	Matrix Spike Duplicate	110	108
890-1105-1	FS12	115	103
LCS 880-6596/1-A	Lab Control Sample	103	107
LCSD 880-6596/2-A	Lab Control Sample Dup	106	107
MB 880-6596/5-A	Method Blank	101	96
<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)
890-1100-A-81-H MS	Matrix Spike	92	87
890-1100-A-81-I MSD	Matrix Spike Duplicate	91	88
890-1105-1	FS12	99	104
LCS 880-6589/2-A	Lab Control Sample	97	97
LCSD 880-6589/3-A	Lab Control Sample Dup	98	99
MB 880-6589/1-A	Method Blank	107	118
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

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

Lab Sample ID: MB 880-6596/5-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6596

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	08/16/21 09:50	08/16/21 13:22	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 09:50	08/16/21 13:22	1

Lab Sample ID: LCS 880-6596/1-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1009		mg/Kg		101	70 - 130
Toluene	0.100	0.09300		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.09098		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1831		mg/Kg		92	70 - 130
o-Xylene	0.100	0.09076		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-6596/2-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09968		mg/Kg		100	70 - 130	1	35
Toluene	0.100	0.09328		mg/Kg		93	70 - 130	0	35
Ethylbenzene	0.100	0.09297		mg/Kg		93	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1875		mg/Kg		94	70 - 130	2	35
o-Xylene	0.100	0.09331		mg/Kg		93	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 880-5117-A-1-B MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00201	U	0.0996	0.08209		mg/Kg		82	70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

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

Lab Sample ID: 880-5117-A-1-B MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00201	U	0.0996	0.07676		mg/Kg		77	70 - 130
Ethylbenzene	<0.00201	U	0.0996	0.07523		mg/Kg		76	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1510		mg/Kg		76	70 - 130
o-Xylene	<0.00201	U	0.0996	0.07556		mg/Kg		76	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	110		70 - 130						
1,4-Difluorobenzene (Surr)	104		70 - 130						

Lab Sample ID: 880-5117-A-1-C MSD

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.08015		mg/Kg		81	70 - 130	2	35
Toluene	<0.00201	U	0.0994	0.07443		mg/Kg		75	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.0994	0.07144		mg/Kg		72	70 - 130	5	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1444		mg/Kg		73	70 - 130	4	35
o-Xylene	<0.00201	U	0.0994	0.07223		mg/Kg		73	70 - 130	5	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	110		70 - 130								
1,4-Difluorobenzene (Surr)	108		70 - 130								

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

Lab Sample ID: MB 880-6589/1-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6589

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	96.25		50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Total TPH	96.25		50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130			08/16/21 08:50	08/16/21 11:24	1
o-Terphenyl	118		70 - 130			08/16/21 08:50	08/16/21 11:24	1

Lab Sample ID: LCS 880-6589/2-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	814.9		mg/Kg		81	70 - 130

Eurofins Xenco, Carlsbad



## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

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

Lab Sample ID: LCS 880-6589/2-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (Over C10-C28)	1000	832.6		mg/Kg		83	70 - 130

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

Lab Sample ID: LCSD 880-6589/3-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6589

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	902.4		mg/Kg		90	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	1000	833.9		mg/Kg		83	70 - 130	0	20

	LCSD %Recovery	LCSD Qualifier	Limits
Surrogate			
1-Chlorooctane	98		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 890-1100-A-81-H MS

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6589

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	995	1032		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	995	843.5		mg/Kg		85	70 - 130

	MS %Recovery	MS Qualifier	Limits
Surrogate			
1-Chlorooctane	92		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 890-1100-A-81-I MSD

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6589

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	981.7		mg/Kg		98	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	844.9		mg/Kg		85	70 - 130	0	20

	MSD %Recovery	MSD Qualifier	Limits
Surrogate			
1-Chlorooctane	91		70 - 130
o-Terphenyl	88		70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6601/1-A

Matrix: Solid

Analysis Batch: 6618

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			08/16/21 13:53	1

Lab Sample ID: LCS 880-6601/2-A

Matrix: Solid

Analysis Batch: 6618

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	251.0		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-6601/3-A

Matrix: Solid

Analysis Batch: 6618

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	252.5		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-1113-A-1-B MS

Matrix: Solid

Analysis Batch: 6618

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	628	F1	248	849.4	F1	mg/Kg		89	90 - 110

Lab Sample ID: 890-1113-A-1-C MSD

Matrix: Solid

Analysis Batch: 6618

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	628	F1	248	849.5	F1	mg/Kg		89	90 - 110	0	20

Eurofins Xenco, Carlsbad

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

## GC VOA

## Prep Batch: 6596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1105-1	FS12	Total/NA	Solid	5035	
MB 880-6596/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6596/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6596/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5117-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-5117-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 6599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1105-1	FS12	Total/NA	Solid	8021B	6596
MB 880-6596/5-A	Method Blank	Total/NA	Solid	8021B	6596
LCS 880-6596/1-A	Lab Control Sample	Total/NA	Solid	8021B	6596
LCSD 880-6596/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6596
880-5117-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	6596
880-5117-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6596

## GC Semi VOA

## Prep Batch: 6589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1105-1	FS12	Total/NA	Solid	8015NM Prep	
MB 880-6589/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6589/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6589/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1100-A-81-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1100-A-81-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 6591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1105-1	FS12	Total/NA	Solid	8015B NM	6589
MB 880-6589/1-A	Method Blank	Total/NA	Solid	8015B NM	6589
LCS 880-6589/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6589
LCSD 880-6589/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6589
890-1100-A-81-H MS	Matrix Spike	Total/NA	Solid	8015B NM	6589
890-1100-A-81-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6589

## HPLC/IC

## Leach Batch: 6601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1105-1	FS12	Soluble	Solid	DI Leach	
MB 880-6601/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6601/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6601/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1113-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1113-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 6618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1105-1	FS12	Soluble	Solid	300.0	6601
MB 880-6601/1-A	Method Blank	Soluble	Solid	300.0	6601
LCS 880-6601/2-A	Lab Control Sample	Soluble	Solid	300.0	6601

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

HPLC/IC (Continued)

Analysis Batch: 6618 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-6601/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6601
890-1113-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	6601
890-1113-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6601

Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

Client Sample ID: FS12

Date Collected: 08/12/21 15:47

Date Received: 08/13/21 09:30

Lab Sample ID: 890-1105-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6596	08/16/21 09:50	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/16/21 15:05	KL	XEN MID
Total/NA	Prep	8015NM Prep			6589	08/16/21 08:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6591	08/16/21 16:45	AJ	XEN MID
Soluble	Leach	DI Leach			6601	08/16/21 11:01	CH	XEN MID
Soluble	Analysis	300.0		1	6618	08/16/21 15:11	CH	XEN MID

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

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22

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

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

## Method Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

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

**Protocol References:**

ASTM = ASTM International

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

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

**Laboratory References:**

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



Sample Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1105-1  
SDG: TEO12921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1105-1	FS12	Solid	08/12/21 15:47	08/13/21 09:30	- 7

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



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 (480) 355-0900 Tampa, FL (813) 291-1111  
Atlanta, GA (770) 449-8800  
Hobbs, NM (575) 392-7550

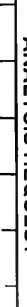
## Chain of Custody

**Work Order No:**

Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Kyle Littlell
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	julis.delval@wsp.com; tacoma.morrissey@wsp.com

Work Order Comments	
<b>Program:</b> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <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"/> RP <input type="checkbox"/> Vel IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:	

Project Name:	Elk/Wallow 11 State #1	Turn Around	ANALYSIS REQUEST		Work Order Notes
Project Number:	TE012921045	Routine <input type="checkbox"/>			AFF: PA.2020.02331.EXP.01
P.O. Number:	Cost Center: 1598041001	Rush: <i>24 hr</i>			API: 30-015-37588
Sampler's Name:	Luis Del Val	Due Date:			Incident #: NAPP211046199

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	2.2/2.0				Thermometer ID		
Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				INM-007		
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				Correction Factor:		
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				Total Containers:		

Number of Containers

PA 8015)

EPA 0-8021)

le (EPA 300.0)

890-1105 Chain of Custody

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

[illegible]

Circle Method(s) and Metal(s) to be analyzed	200.8 / 6020:	200.7 / 6010	Total
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
1 <i>hester</i>	<i>Joe Guffy</i>	8.13.21 0932			
3		4			
5		6			

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1105-1

SDG Number: TEO12921045

Login Number: 1105

List Number: 1

Creator: Olivas, Nathaniel

List Source: Eurofins Xenco, Carlsbad

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

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1105-1

SDG Number: TEO12921045

Login Number: 1105

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland

List Creation: 08/16/21 10:33 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 Xenco, Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-1106-1

Laboratory Sample Delivery Group: TEO12921045

Client Project/Site: Elk Wallow 11 State #1

Revision: 2

#### For:

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

Attn: Tacoma Morrissey

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

Authorized for release by:  
9/2/2021 10:04:13 AM

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: Elk Wallow 11 State #1

Laboratory Job ID: 890-1106-1  
SDG: TEO12921045

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

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

## Glossary

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



## Case Narrative

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

**Job ID: 890-1106-1**

**Laboratory: Eurofins Xenco, Carlsbad**

### Narrative

#### Job Narrative 890-1106-1

### REVISION

The report being provided is a revision of the original report sent on 8/16/2021. The report (revision 1) is being revised due to Revised report due to blank picking up false area.

Report revision history

### Receipt

The sample was received on 8/13/2021 9:30 AM. Unless otherwise noted below, the sample 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

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: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

Client Sample ID: SW09

Lab Sample ID: 890-1106-1

Date Collected: 08/12/21 15:00

Matrix: Solid

Date Received: 08/13/21 09:30

Sample Depth: 0 - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 15:25	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 15:25	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 15:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/16/21 09:50	08/16/21 15:25	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 15:25	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/16/21 09:50	08/16/21 15:25	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/16/21 09:50	08/16/21 15:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	08/16/21 09:50	08/16/21 15:25	1
1,4-Difluorobenzene (Surr)	100		70 - 130	08/16/21 09:50	08/16/21 15:25	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		08/16/21 08:50	08/16/21 17:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/16/21 08:50	08/16/21 17:06	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/16/21 08:50	08/16/21 17:06	1
Total TPH	<49.9	U	49.9	mg/Kg		08/16/21 08:50	08/16/21 17:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	08/16/21 08:50	08/16/21 17:06	1
o-Terphenyl	106		70 - 130	08/16/21 08:50	08/16/21 17:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.3		5.00	mg/Kg			08/16/21 15:17	1

Eurofins Xenco, Carlsbad

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

## 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)
880-5117-A-1-B MS	Matrix Spike	110	104
880-5117-A-1-C MSD	Matrix Spike Duplicate	110	108
890-1106-1	SW09	112	100
LCS 880-6596/1-A	Lab Control Sample	103	107
LCSD 880-6596/2-A	Lab Control Sample Dup	106	107
MB 880-6596/5-A	Method Blank	101	96

## Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1100-A-81-H MS	Matrix Spike	92	87
890-1100-A-81-I MSD	Matrix Spike Duplicate	91	88
890-1106-1	SW09	98	106
LCS 880-6589/2-A	Lab Control Sample	97	97
LCSD 880-6589/3-A	Lab Control Sample Dup	98	99
MB 880-6589/1-A	Method Blank	107	118

## Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

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

Lab Sample ID: MB 880-6596/5-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6596

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	08/16/21 09:50	08/16/21 13:22	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 09:50	08/16/21 13:22	1

Lab Sample ID: LCS 880-6596/1-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1009		mg/Kg		101	70 - 130
Toluene	0.100	0.09300		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.09098		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1831		mg/Kg		92	70 - 130
o-Xylene	0.100	0.09076		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-6596/2-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09968		mg/Kg		100	70 - 130	1	35
Toluene	0.100	0.09328		mg/Kg		93	70 - 130	0	35
Ethylbenzene	0.100	0.09297		mg/Kg		93	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1875		mg/Kg		94	70 - 130	2	35
o-Xylene	0.100	0.09331		mg/Kg		93	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 880-5117-A-1-B MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00201	U	0.0996	0.08209		mg/Kg		82	70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

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

Lab Sample ID: 880-5117-A-1-B MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toluene	<0.00201	U	0.0996	0.07676		mg/Kg		77	70 - 130		
Ethylbenzene	<0.00201	U	0.0996	0.07523		mg/Kg		76	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1510		mg/Kg		76	70 - 130		
o-Xylene	<0.00201	U	0.0996	0.07556		mg/Kg		76	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
4-Bromofluorobenzene (Surr)	110		70 - 130								
1,4-Difluorobenzene (Surr)	104		70 - 130								

Lab Sample ID: 880-5117-A-1-C MSD

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6596

Top Bottom											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.08015		mg/Kg		81	70 - 130	2	35
Toluene	<0.00201	U	0.0994	0.07443		mg/Kg		75	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.0994	0.07144		mg/Kg		72	70 - 130	5	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1444		mg/Kg		73	70 - 130	4	35
o-Xylene	<0.00201	U	0.0994	0.07223		mg/Kg		73	70 - 130	5	35

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

Lab Sample ID: MB 880-6589/1-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6589

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		08/16/21 08:50	08/16/21 11:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Total TPH	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
%Recovery	Qualifier							
1-Chlorooctane	107		70 - 130			08/16/21 08:50	08/16/21 11:24	1
o-Terphenyl	118		70 - 130			08/16/21 08:50	08/16/21 11:24	1

Lab Sample ID: LCS 880-6589/2-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	814.9		mg/Kg		81	70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

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

Lab Sample ID: LCS 880-6589/2-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (Over C10-C28)	1000	832.6		mg/Kg		83	70 - 130

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

Lab Sample ID: LCSD 880-6589/3-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6589

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	902.4		mg/Kg		90	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	1000	833.9		mg/Kg		83	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 890-1100-A-81-H MS

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6589

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	995	1032		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	995	843.5		mg/Kg		85	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 890-1100-A-81-I MSD

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6589

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	981.7		mg/Kg		98	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	844.9		mg/Kg		85	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	88		70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6601/1-A

Matrix: Solid

Analysis Batch: 6618

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			08/16/21 13:53	1

Lab Sample ID: LCS 880-6601/2-A

Matrix: Solid

Analysis Batch: 6618

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	251.0		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-6601/3-A

Matrix: Solid

Analysis Batch: 6618

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	252.5		mg/Kg		101	90 - 110	1	20



## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

## GC VOA

## Prep Batch: 6596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1106-1	SW09	Total/NA	Solid	5035	
MB 880-6596/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6596/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6596/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5117-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-5117-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 6599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1106-1	SW09	Total/NA	Solid	8021B	6596
MB 880-6596/5-A	Method Blank	Total/NA	Solid	8021B	6596
LCS 880-6596/1-A	Lab Control Sample	Total/NA	Solid	8021B	6596
LCSD 880-6596/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6596
880-5117-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	6596
880-5117-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6596

## GC Semi VOA

## Prep Batch: 6589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1106-1	SW09	Total/NA	Solid	8015NM Prep	
MB 880-6589/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6589/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6589/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1100-A-81-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1100-A-81-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 6591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1106-1	SW09	Total/NA	Solid	8015B NM	6589
MB 880-6589/1-A	Method Blank	Total/NA	Solid	8015B NM	6589
LCS 880-6589/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6589
LCSD 880-6589/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6589
890-1100-A-81-H MS	Matrix Spike	Total/NA	Solid	8015B NM	6589
890-1100-A-81-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6589

## HPLC/IC

## Leach Batch: 6601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1106-1	SW09	Soluble	Solid	DI Leach	
MB 880-6601/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6601/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6601/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

## Analysis Batch: 6618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1106-1	SW09	Soluble	Solid	300.0	6601
MB 880-6601/1-A	Method Blank	Soluble	Solid	300.0	6601
LCS 880-6601/2-A	Lab Control Sample	Soluble	Solid	300.0	6601
LCSD 880-6601/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6601

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

**Client Sample ID: SW09****Lab Sample ID: 890-1106-1****Date Collected: 08/12/21 15:00****Matrix: Solid****Date Received: 08/13/21 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6596	08/16/21 09:50	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/16/21 15:25	KL	XEN MID
Total/NA	Prep	8015NM Prep			6589	08/16/21 08:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6591	08/16/21 17:06	AJ	XEN MID
Soluble	Leach	DI Leach			6601	08/16/21 11:01	CH	XEN MID
Soluble	Analysis	300.0		1	6618	08/16/21 15:17	CH	XEN MID

**Laboratory References:**

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

**Accreditation/Certification Summary**

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

**Laboratory: Eurofins Xenco, Midland**

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22

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

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

## Method Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

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

### Protocol References:

ASTM = ASTM International

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

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

### Laboratory References:

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

Eurofins Xenco, Carlsbad

Sample Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1106-1  
SDG: TEO12921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1106-1	SW09	Solid	08/12/21 15:00	08/13/21 09:30	0 - 7

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 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) 585-3443 Lubbock, TX (806) 794-1296  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 233-3333  
Hobbs, NM (575-392-7550)


## Chain of Custody

**Work Order No.:**

www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Kyle Littlell
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	<a href="mailto:luis.delval@wsp.com">luis.delval@wsp.com</a> , <a href="mailto:tacoma.morrissey@wsp.com">tacoma.morrissey@wsp.com</a>

Work Order Comments	
<b>Program:</b> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <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"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____	

Project Name:	Elk Wallow 11 State #1	Turn Around	ANALYSIS REQUEST					Work Order Notes
Project Number:	TE012921045	Routine <input type="checkbox"/>						AFE: PA.2020.02331.EXP.01
P.O. Number:	Cost Center: 1598041001	Rush: <i>24 hr</i>						API: 30-015-37588
Sampler's Name:	Luis Del Val	Due Date:						Incident #: NAP211046199

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	2.2 / 2.0	Thermometer ID					
Received Intact:	Yes	No	TWIN-007				
Cooler Custody Seals:	Yes	No	Correction Factor:				
Sample Custody Seals:	Yes	No	Total Containers:				

Number of Containers

(PA 8015)

(PA 0=8021)

(EPA 300.0)

890-1106 Chain of Custody

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

[illegible]

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 <i>h. p. p. p. p.</i>	<i>Che Gof</i>	8-13-21 0930			
3		4			
5		6			

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1106-1

SDG Number: TEO12921045

**Login Number: 1106****List Number: 1****Creator: Olivas, Nathaniel****List Source: Eurofins Xenco, Carlsbad**

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



## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1106-1

SDG Number: TEO12921045

**Login Number: 1106****List Number: 2****Creator: Copeland, Tatiana****List Source: Eurofins Xenco, Midland****List Creation: 08/16/21 10:33 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 Xenco, Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-1107-1

Laboratory Sample Delivery Group: TEO12921045

Client Project/Site: Elk Wallow 22 State #1

Revision: 1

#### For:

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

Attn: Tacoma Morrissey

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

Authorized for release by:  
8/18/2021 8:59:26 AM

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: Elk Wallow 22 State #1

Laboratory Job ID: 890-1107-1  
SDG: TEO12921045

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

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

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

**Job ID: 890-1107-1**

**Laboratory: Eurofins Xenco, Carlsbad**

### Narrative

#### Job Narrative 890-1107-1

#### REVISION

The report being provided is a revision of the original report sent on 8/16/2021. The report (revision 0) is being revised due to .

#### **Receipt**

The sample was received on 8/13/2021 9:30 AM. Unless otherwise noted below, the sample 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**

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: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

Client Sample ID: FS09

Lab Sample ID: 890-1107-1

Date Collected: 08/12/21 15:32

Matrix: Solid

Date Received: 08/13/21 09:30

Sample Depth: - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 14:24	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 14:24	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 14:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/16/21 09:50	08/16/21 14:24	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/16/21 09:50	08/16/21 14:24	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/16/21 09:50	08/16/21 14:24	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/16/21 09:50	08/16/21 14:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	08/16/21 09:50	08/16/21 14:24	1
1,4-Difluorobenzene (Surr)	108		70 - 130	08/16/21 09:50	08/16/21 14:24	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		08/16/21 08:50	08/16/21 17:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 17:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 17:48	1
Total TPH	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 17:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	08/16/21 08:50	08/16/21 17:48	1
o-Terphenyl	104		70 - 130	08/16/21 08:50	08/16/21 17:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.3		5.00	mg/Kg			08/16/21 15:22	1

Eurofins Xenco, Carlsbad

# Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

## 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)
880-5117-A-1-B MS	Matrix Spike	110	104
880-5117-A-1-C MSD	Matrix Spike Duplicate	110	108
890-1107-1	FS09	119	108
LCS 880-6596/1-A	Lab Control Sample	103	107
LCSD 880-6596/2-A	Lab Control Sample Dup	106	107
MB 880-6596/5-A	Method Blank	101	96

### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1100-A-81-H MS	Matrix Spike	92	87
890-1100-A-81-I MSD	Matrix Spike Duplicate	91	88
890-1107-1	FS09	97	104
LCS 880-6589/2-A	Lab Control Sample	97	97
LCSD 880-6589/3-A	Lab Control Sample Dup	98	99
MB 880-6589/1-A	Method Blank	107	118

### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

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

Lab Sample ID: MB 880-6596/5-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6596

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	08/16/21 09:50	08/16/21 13:22	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 09:50	08/16/21 13:22	1

Lab Sample ID: LCS 880-6596/1-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1009		mg/Kg		101	70 - 130
Toluene	0.100	0.09300		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.09098		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1831		mg/Kg		92	70 - 130
o-Xylene	0.100	0.09076		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-6596/2-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09968		mg/Kg		100	70 - 130	1	35
Toluene	0.100	0.09328		mg/Kg		93	70 - 130	0	35
Ethylbenzene	0.100	0.09297		mg/Kg		93	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1875		mg/Kg		94	70 - 130	2	35
o-Xylene	0.100	0.09331		mg/Kg		93	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 880-5117-A-1-B MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00201	U	0.0996	0.08209		mg/Kg		82	70 - 130

Eurofins Xenco, Carlsbad



## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

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

Lab Sample ID: 880-5117-A-1-B MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00201	U	0.0996	0.07676		mg/Kg		77	70 - 130
Ethylbenzene	<0.00201	U	0.0996	0.07523		mg/Kg		76	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1510		mg/Kg		76	70 - 130
o-Xylene	<0.00201	U	0.0996	0.07556		mg/Kg		76	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	110		70 - 130						
1,4-Difluorobenzene (Surr)	104		70 - 130						

Lab Sample ID: 880-5117-A-1-C MSD

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6596

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.08015		mg/Kg		81	70 - 130	2	35
Toluene	<0.00201	U	0.0994	0.07443		mg/Kg		75	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.0994	0.07144		mg/Kg		72	70 - 130	5	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1444		mg/Kg		73	70 - 130	4	35
o-Xylene	<0.00201	U	0.0994	0.07223		mg/Kg		73	70 - 130	5	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	110		70 - 130								
1,4-Difluorobenzene (Surr)	108		70 - 130								

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

Lab Sample ID: MB 880-6589/1-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6589

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		08/16/21 08:50	08/16/21 11:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Total TPH	<50.0	U	50.0	mg/Kg		08/16/21 08:50	08/16/21 11:24	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130			08/16/21 08:50	08/16/21 11:24	1
o-Terphenyl	118		70 - 130			08/16/21 08:50	08/16/21 11:24	1

Lab Sample ID: LCS 880-6589/2-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	814.9		mg/Kg		81	70 - 130

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

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

Lab Sample ID: LCS 880-6589/2-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6589

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	832.6		mg/Kg		83	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits								
1-Chlorooctane	97		70 - 130								
o-Terphenyl	97		70 - 130								

Lab Sample ID: LCSD 880-6589/3-A

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6589

Top Bottom 000											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	902.4		mg/Kg		90	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	833.9		mg/Kg		83	70 - 130	0	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
1-Chlorooctane	98		70 - 130								
o-Terphenyl	99		70 - 130								

Lab Sample ID: 890-1100-A-81-H MS

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6589

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.		
	Result	Qualifier	Added	Result	Qualifier			Limits			
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	995	1032		mg/Kg		104	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	843.5		mg/Kg		85	70 - 130		
Surrogate	MS	MS									
	%Recovery	Qualifier	Limits								
1-Chlorooctane	92		70 - 130								
o-Terphenyl	87		70 - 130								

Lab Sample ID: 890-1100-A-81-I MSD

Matrix: Solid

Analysis Batch: 6591

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6589

Top Bottom 0000											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	981.7		mg/Kg		98	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	844.9		mg/Kg		85	70 - 130	0	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	91		70 - 130								
o-Terphenyl	88		70 - 130								

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6601/1-A

Matrix: Solid

Analysis Batch: 6618

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			08/16/21 13:53	1

Lab Sample ID: LCS 880-6601/2-A

Matrix: Solid

Analysis Batch: 6618

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	251.0		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-6601/3-A

Matrix: Solid

Analysis Batch: 6618

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	252.5		mg/Kg		101	90 - 110	1	20

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

## GC VOA

## Prep Batch: 6596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1107-1	FS09	Total/NA	Solid	5035	
MB 880-6596/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6596/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6596/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5117-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-5117-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 6599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1107-1	FS09	Total/NA	Solid	8021B	6596
MB 880-6596/5-A	Method Blank	Total/NA	Solid	8021B	6596
LCS 880-6596/1-A	Lab Control Sample	Total/NA	Solid	8021B	6596
LCSD 880-6596/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6596
880-5117-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	6596
880-5117-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6596

## GC Semi VOA

## Prep Batch: 6589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1107-1	FS09	Total/NA	Solid	8015NM Prep	
MB 880-6589/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6589/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6589/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1100-A-81-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1100-A-81-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 6591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1107-1	FS09	Total/NA	Solid	8015B NM	6589
MB 880-6589/1-A	Method Blank	Total/NA	Solid	8015B NM	6589
LCS 880-6589/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6589
LCSD 880-6589/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6589
890-1100-A-81-H MS	Matrix Spike	Total/NA	Solid	8015B NM	6589
890-1100-A-81-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6589

## HPLC/IC

## Leach Batch: 6601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1107-1	FS09	Soluble	Solid	DI Leach	
MB 880-6601/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6601/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6601/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

## Analysis Batch: 6618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1107-1	FS09	Soluble	Solid	300.0	6601
MB 880-6601/1-A	Method Blank	Soluble	Solid	300.0	6601
LCS 880-6601/2-A	Lab Control Sample	Soluble	Solid	300.0	6601
LCSD 880-6601/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6601

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

**Client Sample ID: FS09****Lab Sample ID: 890-1107-1****Date Collected: 08/12/21 15:32****Matrix: Solid****Date Received: 08/13/21 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6596	08/16/21 09:50	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/16/21 14:24	KL	XEN MID
Total/NA	Prep	8015NM Prep			6589	08/16/21 08:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6591	08/16/21 17:48	AJ	XEN MID
Soluble	Leach	DI Leach			6601	08/16/21 11:01	CH	XEN MID
Soluble	Analysis	300.0		1	6618	08/16/21 15:22	CH	XEN MID

**Laboratory References:**

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

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

## Method Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

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

**Protocol References:**

ASTM = ASTM International

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

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

**Laboratory References:**

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

Eurofins Xenco, Carlsbad

Sample Summary

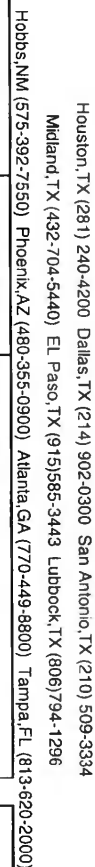
Client: WSP USA Inc.  
Project/Site: Elk Wallow 22 State #1

Job ID: 890-1107-1  
SDG: TEO12921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1107-1	FS09	Solid	08/12/21 15:32	08/13/21 09:30	- 7

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14






## Chain of Custody

**Work Order No:**

Page \_\_\_\_ of \_\_\_\_  
www.xenco.com

Work Order Comments									
<b>Program:</b> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <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:									

Project Name:		Elk Wallow 11 State #1		Turn Around		ANALYSIS REQUEST										Work Order Notes	
Project Number:		TE012921045		Routine <input type="checkbox"/>												AFE: PA.2020.02331.EXP.01	
P.O. Number:		Cost Center: 1598041001		Rush: <i>24 hr</i>												API: 30-015-37588	
Sampler's Name:		Luis Del Val		Due Date:												Incident #: NAPP211046199	


SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	2-2/2.0	Thermometer ID					
Received Intact:	Yes	No	7MM-667				
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:			
Sample Custody Seals:	Yes	No	N/A	Total Containers:			

Number of Containers

PA 8015)

EPA 0=8021)

e (EPA 300.0)



890-1107 Chain of Custody

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

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\_\_\_\_\_

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

[illegible]

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xencoo, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencoo 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 Xencoo. A minimum charge of \$75.00 will be applied to each project and a charge of \$3 for each sample submitted to Xencoo, 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>	8-13-21 0930			

Download Date: 05/14/18 10:18 PM

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1107-1

SDG Number: TEO12921045

**Login Number: 1107****List Number: 1****Creator: Olivas, Nathaniel****List Source: Eurofins Xenco, Carlsbad**

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

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1107-1

SDG Number: TEO12921045

**Login Number: 1107****List Number: 2****Creator: Copeland, Tatiana****List Source: Eurofins Xenco, Midland****List Creation: 08/16/21 10:34 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 Xenco, Carlsbad  
1089 N Canal St.  
Carlsbad, NM 88220  
Tel: (575)988-3199

Laboratory Job ID: 890-1109-1

Laboratory Sample Delivery Group: TEO12921045

Client Project/Site: Elk Wallow 11 State #1

Revision: 1

#### For:

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

Attn: Tacoma Morrissey

Authorized for release by:  
9/2/2021 10:01:12 AM

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

#### LINKS

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results through

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[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: Elk Wallow 11 State #1

Laboratory Job ID: 890-1109-1  
SDG: TEO12921045

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

## Qualifiers

## GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

## GC Semi VOA

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

## HPLC/IC

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

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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

Eurofins Xenco, Carlsbad

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

**Job ID: 890-1109-1**

**Laboratory: Eurofins Xenco, Carlsbad**

### Narrative

#### Job Narrative 890-1109-1

### REVISION

The report being provided is a revision of the original report sent on 8/19/2021. The report (revision 0) is being revised due to .

#### **Receipt**

The samples were received on 8/13/2021 10:13 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 2.0°C

#### **GC VOA**

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-6476 and analytical batch 880-6599 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 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-6476 and analytical batch 880-6599 recovered outside control limits for the following analytes: Benzene

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 880-6609 and analytical batch 880-6610 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### **HPLC/IC**

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



## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

Client Sample ID: SW08

Lab Sample ID: 890-1109-1

Date Collected: 08/12/21 14:50

Matrix: Solid

Date Received: 08/13/21 10:13

Sample Depth: 0 - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *- *1	0.00199	mg/Kg		08/16/21 16:39	08/17/21 06:22	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/16/21 16:39	08/17/21 06:22	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/16/21 16:39	08/17/21 06:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/16/21 16:39	08/17/21 06:22	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/16/21 16:39	08/17/21 06:22	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/16/21 16:39	08/17/21 06:22	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/16/21 16:39	08/17/21 06:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130	08/16/21 16:39	08/17/21 06:22	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 16:39	08/17/21 06:22	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		08/16/21 12:02	08/16/21 22:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/16/21 12:02	08/16/21 22:36	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/16/21 12:02	08/16/21 22:36	1
Total TPH	<49.9	U	49.9	mg/Kg		08/16/21 12:02	08/16/21 22:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	08/16/21 12:02	08/16/21 22:36	1
o-Terphenyl	98		70 - 130	08/16/21 12:02	08/16/21 22:36	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66.0		4.95	mg/Kg			08/18/21 19:46	1

Client Sample ID: FS08

Lab Sample ID: 890-1109-2

Date Collected: 08/12/21 15:30

Matrix: Solid

Date Received: 08/13/21 10:13

Sample Depth: - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *- *1	0.00199	mg/Kg		08/16/21 16:39	08/17/21 06:43	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/16/21 16:39	08/17/21 06:43	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/16/21 16:39	08/17/21 06:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/16/21 16:39	08/17/21 06:43	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/16/21 16:39	08/17/21 06:43	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/16/21 16:39	08/17/21 06:43	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/16/21 16:39	08/17/21 06:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	08/16/21 16:39	08/17/21 06:43	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 16:39	08/17/21 06:43	1

Eurofins Xenco, Carlsbad



## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

## Client Sample ID: FS08

## Lab Sample ID: 890-1109-2

Date Collected: 08/12/21 15:30

Matrix: Solid

Date Received: 08/13/21 10:13

Sample Depth: - 7

## 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		08/16/21 12:02	08/16/21 22:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/16/21 12:02	08/16/21 22:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/16/21 12:02	08/16/21 22:57	1
Total TPH	<49.9	U	49.9	mg/Kg		08/16/21 12:02	08/16/21 22:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	08/16/21 12:02	08/16/21 22:57	1
o-Terphenyl	94		70 - 130	08/16/21 12:02	08/16/21 22:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	71.7		4.97	mg/Kg			08/18/21 19:52	1

## Client Sample ID: FS10

## Lab Sample ID: 890-1109-3

Date Collected: 08/12/21 15:36

Matrix: Solid

Date Received: 08/13/21 10:13

Sample Depth: - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U *- *1	0.00198	mg/Kg		08/16/21 08:30	08/17/21 07:03	1
Toluene	<0.00198	U	0.00198	mg/Kg		08/16/21 08:30	08/17/21 07:03	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		08/16/21 08:30	08/17/21 07:03	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		08/16/21 08:30	08/17/21 07:03	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		08/16/21 08:30	08/17/21 07:03	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		08/16/21 08:30	08/17/21 07:03	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		08/16/21 08:30	08/17/21 07:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	08/16/21 08:30	08/17/21 07:03	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 08:30	08/17/21 07:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		08/16/21 12:02	08/16/21 23:17	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/16/21 12:02	08/16/21 23:17	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/16/21 12:02	08/16/21 23:17	1
Total TPH	<49.8	U	49.8	mg/Kg		08/16/21 12:02	08/16/21 23:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	08/16/21 12:02	08/16/21 23:17	1
o-Terphenyl	98		70 - 130	08/16/21 12:02	08/16/21 23:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	50.9		5.05	mg/Kg			08/18/21 20:09	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

Client Sample ID: FS11

Lab Sample ID: 890-1109-4

Date Collected: 08/12/21 15:45

Matrix: Solid

Date Received: 08/13/21 10:13

Sample Depth: - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *- *1	0.00201	mg/Kg		08/16/21 08:30	08/17/21 07:24	1
Toluene	<0.00201	U	0.00201	mg/Kg		08/16/21 08:30	08/17/21 07:24	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		08/16/21 08:30	08/17/21 07:24	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		08/16/21 08:30	08/17/21 07:24	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		08/16/21 08:30	08/17/21 07:24	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		08/16/21 08:30	08/17/21 07:24	1
Total BTEX	<0.00402	U	0.00402	mg/Kg		08/16/21 08:30	08/17/21 07:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	08/16/21 08:30	08/17/21 07:24	1
1,4-Difluorobenzene (Surr)	92		70 - 130	08/16/21 08:30	08/17/21 07:24	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		08/16/21 12:02	08/16/21 23:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/16/21 12:02	08/16/21 23:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/16/21 12:02	08/16/21 23:59	1
Total TPH	<50.0	U	50.0	mg/Kg		08/16/21 12:02	08/16/21 23:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	08/16/21 12:02	08/16/21 23:59	1
o-Terphenyl	99		70 - 130	08/16/21 12:02	08/16/21 23:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46.4		4.98	mg/Kg			08/18/21 20:14	1

Client Sample ID: FS13

Lab Sample ID: 890-1109-5

Date Collected: 08/12/21 15:53

Matrix: Solid

Date Received: 08/13/21 10:13

Sample Depth: - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *- *1	0.00200	mg/Kg		08/16/21 08:30	08/17/21 07:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/16/21 08:30	08/17/21 07:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/16/21 08:30	08/17/21 07:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/16/21 08:30	08/17/21 07:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/16/21 08:30	08/17/21 07:44	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/16/21 08:30	08/17/21 07:44	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/16/21 08:30	08/17/21 07:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	08/16/21 08:30	08/17/21 07:44	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 08:30	08/17/21 07:44	1

Eurofins Xenco, Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

## Client Sample ID: FS13

## Lab Sample ID: 890-1109-5

Date Collected: 08/12/21 15:53

Matrix: Solid

Date Received: 08/13/21 10:13

Sample Depth: - 7

## 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		08/16/21 12:02	08/17/21 00:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/16/21 12:02	08/17/21 00:20	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/16/21 12:02	08/17/21 00:20	1
Total TPH	<50.0	U	50.0	mg/Kg		08/16/21 12:02	08/17/21 00:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130	08/16/21 12:02	08/17/21 00:20	1
o-Terphenyl	91		70 - 130	08/16/21 12:02	08/17/21 00:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.2		4.95	mg/Kg			08/18/21 20:20	1

## Client Sample ID: FS14

## Lab Sample ID: 890-1109-6

Date Collected: 08/12/21 16:00

Matrix: Solid

Date Received: 08/13/21 10:13

Sample Depth: - 7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *- *1	0.00200	mg/Kg		08/16/21 08:30	08/17/21 08:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/16/21 08:30	08/17/21 08:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/16/21 08:30	08/17/21 08:04	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		08/16/21 08:30	08/17/21 08:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/16/21 08:30	08/17/21 08:04	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		08/16/21 08:30	08/17/21 08:04	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		08/16/21 08:30	08/17/21 08:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	08/16/21 08:30	08/17/21 08:04	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/16/21 08:30	08/17/21 08:04	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		08/16/21 12:02	08/17/21 00:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/16/21 12:02	08/17/21 00:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/16/21 12:02	08/17/21 00:41	1
Total TPH	<49.9	U	49.9	mg/Kg		08/16/21 12:02	08/17/21 00:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	08/16/21 12:02	08/17/21 00:41	1
o-Terphenyl	95		70 - 130	08/16/21 12:02	08/17/21 00:41	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.2		5.00	mg/Kg			08/18/21 20:26	1

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## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

## 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)
880-5041-A-1-E MS	Matrix Spike	112	106
880-5041-A-1-F MSD	Matrix Spike Duplicate	117	101
890-1109-1	SW08	129	96
890-1109-2	FS08	126	96
890-1109-3	FS10	118	96
890-1109-4	FS11	123	92
890-1109-5	FS13	118	96
890-1109-6	FS14	118	98
LCS 880-6476/1-A	Lab Control Sample	107	106
LCSD 880-6476/2-A	Lab Control Sample Dup	111	107
MB 880-6476/5-A	Method Blank	122	98
MB 880-6596/5-A	Method Blank	101	96
<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)
880-5111-A-1-E MS	Matrix Spike	74	74
880-5111-A-1-F MSD	Matrix Spike Duplicate	74	74
890-1109-1	SW08	87	98
890-1109-2	FS08	83	94
890-1109-3	FS10	86	98
890-1109-4	FS11	87	99
890-1109-5	FS13	82	91
890-1109-6	FS14	83	95
LCS 880-6609/2-A	Lab Control Sample	93	100
LCSD 880-6609/3-A	Lab Control Sample Dup	88	95
MB 880-6609/1-A	Method Blank	99	112
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

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

Lab Sample ID: MB 880-6476/5-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6476

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/16/21 16:39	08/17/21 00:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	08/16/21 16:39	08/17/21 00:14	1
1,4-Difluorobenzene (Surr)	98		70 - 130	08/16/21 16:39	08/17/21 00:14	1

Lab Sample ID: LCS 880-6476/1-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.03564	*-	mg/Kg		36	70 - 130
Toluene	0.100	0.08815		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.08786		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	0.200	0.1764		mg/Kg		88	70 - 130
o-Xylene	0.100	0.09019		mg/Kg		90	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-6476/2-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09517	*1	mg/Kg		95	70 - 130	91	35
Toluene	0.100	0.08807		mg/Kg		88	70 - 130	0	35
Ethylbenzene	0.100	0.08866		mg/Kg		89	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1802		mg/Kg		90	70 - 130	2	35
o-Xylene	0.100	0.09195		mg/Kg		92	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 880-5041-A-1-E MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U *- *1	0.101	0.08062		mg/Kg		80	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

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

Lab Sample ID: 880-5041-A-1-E MS

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.101	0.07730		mg/Kg		77	70 - 130
Ethylbenzene	<0.00200	U	0.101	0.07614		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.202	0.1550		mg/Kg		77	70 - 130
o-Xylene	<0.00200	U	0.101	0.07815		mg/Kg		77	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 880-5041-A-1-F MSD

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6476

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U *- *1	0.0996	0.07899		mg/Kg		79	70 - 130	2	35
Toluene	<0.00200	U	0.0996	0.07743		mg/Kg		78	70 - 130	0	35
Ethylbenzene	<0.00200	U	0.0996	0.07670		mg/Kg		77	70 - 130	1	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1583		mg/Kg		79	70 - 130	2	35
o-Xylene	<0.00200	U	0.0996	0.08007		mg/Kg		80	70 - 130	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: MB 880-6596/5-A

Matrix: Solid

Analysis Batch: 6599

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6596

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	08/16/21 09:50	08/16/21 13:22	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/16/21 09:50	08/16/21 13:22	1

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

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

Lab Sample ID: MB 880-6609/1-A

Matrix: Solid

Analysis Batch: 6610

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6609

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		08/16/21 12:02	08/16/21 14:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/16/21 12:02	08/16/21 14:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/16/21 12:02	08/16/21 14:21	1
Total TPH	<50.0	U	50.0	mg/Kg		08/16/21 12:02	08/16/21 14:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	08/16/21 12:02	08/16/21 14:21	1
o-Terphenyl	112		70 - 130	08/16/21 12:02	08/16/21 14:21	1

Lab Sample ID: LCS 880-6609/2-A

Matrix: Solid

Analysis Batch: 6610

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6609

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	959.3		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1029		mg/Kg		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: LCSD 880-6609/3-A

Matrix: Solid

Analysis Batch: 6610

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6609

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	839.5		mg/Kg		84	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	1000	987.4		mg/Kg		99	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 880-5111-A-1-E MS

Matrix: Solid

Analysis Batch: 6610

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6609

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	995	676.7	F1	mg/Kg		68	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	995	793.1		mg/Kg		80	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

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

Lab Sample ID: 880-5111-A-1-E MS

Matrix: Solid

Analysis Batch: 6610

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6609

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	74		70 - 130
o-Terphenyl	74		70 - 130

Lab Sample ID: 880-5111-A-1-F MSD

Matrix: Solid

Analysis Batch: 6610

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6609

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	733.7		mg/Kg		74	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	792.2		mg/Kg		79	70 - 130	0	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	74		70 - 130
o-Terphenyl	74		70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6603/1-A

Matrix: Solid

Analysis Batch: 6755

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			08/18/21 19:01	1

Lab Sample ID: LCS 880-6603/2-A

Matrix: Solid

Analysis Batch: 6755

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	252.5		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-6603/3-A

Matrix: Solid

Analysis Batch: 6755

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	255.7		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 890-1108-A-2-C MS

Matrix: Solid

Analysis Batch: 6755

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	24.0		250	268.5		mg/Kg		98	90 - 110

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QC Sample Results

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1108-A-2-D MSD					Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid					Prep Type: Soluble							
Analysis Batch: 6755												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit	
Chloride	24.0		250	268.7		mg/Kg		98	90 - 110	0	20	

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

## GC VOA

## Prep Batch: 6476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1109-1	SW08	Total/NA	Solid	5035	
890-1109-2	FS08	Total/NA	Solid	5035	
890-1109-3	FS10	Total/NA	Solid	5035	
890-1109-4	FS11	Total/NA	Solid	5035	
890-1109-5	FS13	Total/NA	Solid	5035	
890-1109-6	FS14	Total/NA	Solid	5035	
MB 880-6476/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6476/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6476/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5041-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
880-5041-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Prep Batch: 6596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6596/5-A	Method Blank	Total/NA	Solid	5035	

## Analysis Batch: 6599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1109-1	SW08	Total/NA	Solid	8021B	6476
890-1109-2	FS08	Total/NA	Solid	8021B	6476
890-1109-3	FS10	Total/NA	Solid	8021B	6476
890-1109-4	FS11	Total/NA	Solid	8021B	6476
890-1109-5	FS13	Total/NA	Solid	8021B	6476
890-1109-6	FS14	Total/NA	Solid	8021B	6476
MB 880-6476/5-A	Method Blank	Total/NA	Solid	8021B	6476
MB 880-6596/5-A	Method Blank	Total/NA	Solid	8021B	6596
LCS 880-6476/1-A	Lab Control Sample	Total/NA	Solid	8021B	6476
LCSD 880-6476/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6476
880-5041-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	6476
880-5041-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6476

## GC Semi VOA

## Prep Batch: 6609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1109-1	SW08	Total/NA	Solid	8015NM Prep	
890-1109-2	FS08	Total/NA	Solid	8015NM Prep	
890-1109-3	FS10	Total/NA	Solid	8015NM Prep	
890-1109-4	FS11	Total/NA	Solid	8015NM Prep	
890-1109-5	FS13	Total/NA	Solid	8015NM Prep	
890-1109-6	FS14	Total/NA	Solid	8015NM Prep	
MB 880-6609/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6609/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6609/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-5111-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-5111-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 6610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1109-1	SW08	Total/NA	Solid	8015B NM	6609
890-1109-2	FS08	Total/NA	Solid	8015B NM	6609

Eurofins Xenco, Carlsbad

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

## GC Semi VOA (Continued)

## Analysis Batch: 6610 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1109-3	FS10	Total/NA	Solid	8015B NM	6609
890-1109-4	FS11	Total/NA	Solid	8015B NM	6609
890-1109-5	FS13	Total/NA	Solid	8015B NM	6609
890-1109-6	FS14	Total/NA	Solid	8015B NM	6609
MB 880-6609/1-A	Method Blank	Total/NA	Solid	8015B NM	6609
LCS 880-6609/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6609
LCSD 880-6609/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6609
880-5111-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	6609
880-5111-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6609

## HPLC/IC

## Leach Batch: 6603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1109-1	SW08	Soluble	Solid	DI Leach	
890-1109-2	FS08	Soluble	Solid	DI Leach	
890-1109-3	FS10	Soluble	Solid	DI Leach	
890-1109-4	FS11	Soluble	Solid	DI Leach	
890-1109-5	FS13	Soluble	Solid	DI Leach	
890-1109-6	FS14	Soluble	Solid	DI Leach	
MB 880-6603/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6603/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6603/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1108-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1108-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 6755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1109-1	SW08	Soluble	Solid	300.0	6603
890-1109-2	FS08	Soluble	Solid	300.0	6603
890-1109-3	FS10	Soluble	Solid	300.0	6603
890-1109-4	FS11	Soluble	Solid	300.0	6603
890-1109-5	FS13	Soluble	Solid	300.0	6603
890-1109-6	FS14	Soluble	Solid	300.0	6603
MB 880-6603/1-A	Method Blank	Soluble	Solid	300.0	6603
LCS 880-6603/2-A	Lab Control Sample	Soluble	Solid	300.0	6603
LCSD 880-6603/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6603
890-1108-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	6603
890-1108-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6603

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

Client Sample ID: SW08

Lab Sample ID: 890-1109-1

Date Collected: 08/12/21 14:50

Matrix: Solid

Date Received: 08/13/21 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 06:22	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/16/21 22:36	AJ	XEN MID
Soluble	Leach	DI Leach			6603	08/16/21 11:12	CH	XEN MID
Soluble	Analysis	300.0		1	6755	08/18/21 19:46	CH	XEN MID

Client Sample ID: FS08

Lab Sample ID: 890-1109-2

Date Collected: 08/12/21 15:30

Matrix: Solid

Date Received: 08/13/21 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 06:43	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/16/21 22:57	AJ	XEN MID
Soluble	Leach	DI Leach			6603	08/16/21 11:12	CH	XEN MID
Soluble	Analysis	300.0		1	6755	08/18/21 19:52	CH	XEN MID

Client Sample ID: FS10

Lab Sample ID: 890-1109-3

Date Collected: 08/12/21 15:36

Matrix: Solid

Date Received: 08/13/21 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 07:03	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/16/21 23:17	AJ	XEN MID
Soluble	Leach	DI Leach			6603	08/16/21 11:12	CH	XEN MID
Soluble	Analysis	300.0		1	6755	08/18/21 20:09	CH	XEN MID

Client Sample ID: FS11

Lab Sample ID: 890-1109-4

Date Collected: 08/12/21 15:45

Matrix: Solid

Date Received: 08/13/21 10:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 07:24	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/16/21 23:59	AJ	XEN MID
Soluble	Leach	DI Leach			6603	08/16/21 11:12	CH	XEN MID
Soluble	Analysis	300.0		1	6755	08/18/21 20:14	CH	XEN MID

Eurofins Xenco, Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

## Client Sample ID: FS13

Date Collected: 08/12/21 15:53

Date Received: 08/13/21 10:13

## Lab Sample ID: 890-1109-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 07:44	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/17/21 00:20	AJ	XEN MID
Soluble	Leach	DI Leach			6603	08/16/21 11:12	CH	XEN MID
Soluble	Analysis	300.0		1	6755	08/18/21 20:20	CH	XEN MID

## Client Sample ID: FS14

Date Collected: 08/12/21 16:00

Date Received: 08/13/21 10:13

## Lab Sample ID: 890-1109-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 08:04	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/17/21 00:41	AJ	XEN MID
Soluble	Leach	DI Leach			6603	08/16/21 11:12	CH	XEN MID
Soluble	Analysis	300.0		1	6755	08/18/21 20:26	CH	XEN MID

## Laboratory References:

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

Eurofins Xenco, Carlsbad

**Accreditation/Certification Summary**

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

**Laboratory: Eurofins Xenco, Midland**

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22

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

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

Eurofins Xenco, Carlsbad

## Method Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

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

### Protocol References:

ASTM = ASTM International

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

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

### Laboratory References:

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

Eurofins Xenco, Carlsbad

## Sample Summary

Client: WSP USA Inc.  
Project/Site: Elk Wallow 11 State #1

Job ID: 890-1109-1  
SDG: TEO12921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1109-1	SW08	Solid	08/12/21 14:50	08/13/21 10:13	0 - 7
890-1109-2	FS08	Solid	08/12/21 15:30	08/13/21 10:13	- 7
890-1109-3	FS10	Solid	08/12/21 15:36	08/13/21 10:13	- 7
890-1109-4	FS11	Solid	08/12/21 15:45	08/13/21 10:13	- 7
890-1109-5	FS13	Solid	08/12/21 15:53	08/13/21 10:13	- 7
890-1109-6	FS14	Solid	08/12/21 16:00	08/13/21 10:13	- 7





Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333  
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) 291-3922  
Hobbs, NM (575-392-7550)

## Chain of Custody

**Work Order No:**

[www.xenco.com](http://www.xenco.com)

Page \_\_\_\_ of \_\_\_\_

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Kyle Litrell
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	luis.delval@wsp.com; tacoma.morrissey@wsp.com

Work Order Comments	
<b>Program:</b> UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <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"/> RP <input type="checkbox"/> Vel IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:	

Project Name:	Elk Wallow 11 State #1	Turn Around	ANALYSIS REQUEST				Work Order Notes
Project Number:	TE012921045	Routine <input checked="" type="checkbox"/>					AFF: PA.2020.02331. EXP.01
P.O. Number:	Cost Center: 1598041001	Rush: <input type="checkbox"/>					API: 30-015-37588
Sampler's Name:	Luis Del Val	Due Date:					Incident #: NAPP211046199

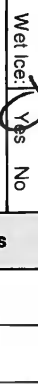
SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	2.2/2.0	Thermometer ID					
Received In/act:	Yes	No	TWA-007				
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:			
Sample Custody Seals:	Yes	No	N/A	Total Containers:			

Number of Containers

PA 8015)

EPA 0=8021)

e (EPA 300.0)



890-1109 Chain of Custody

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

[illegible]



**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 II Sn U V Zr

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8HCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 14/0 / 14/1 : 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 		8-13-21 0930	2		
3			4		
5			6		

Revised Date 05/11/18 Row 2018

Revised Date 051418 Rev. 2018

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1109-1

SDG Number: TEO12921045

**Login Number: 1109****List Number: 1****Creator: Olivas, Nathaniel****List Source: Eurofins Xenco, Carlsbad**

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

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1109-1

SDG Number: TEO12921045

**Login Number: 1109****List Number: 2****Creator: Copeland, Tatiana****List Source: Eurofins Xenco, Midland****List Creation: 08/16/21 10:35 AM**

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

**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 52409

**CONDITIONS**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 52409
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2110461994 ELK WALLOW 11 STATE #1, thank you. This closure is approved.	2/8/2022