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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NMAP1825459428
District RP	2RP-4967
Facility ID	N/A
Application ID	pMAP1825459097

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.151330 Longitude -103.96267
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Elk Wallow 11 State #001H Battery	Site Type Tank Battery
Date Release Discovered 8/27/18 at 2pm	API# 30-015-37588

Unit Letter	Section	Township	Range	County
D	11	25S	29E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 33.12	Volume Recovered (bbls) 21.56
☒ Produced Water	Volume Released (bbls) 723.13	Volume Recovered (bbls) 468.44
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
Battery was struck by lightning which caused a fire that spread to all the tanks in the west tank battery containment. All the associated wells had already been shut at the time of the event. The fire department extinguished the fire.

State of New Mexico
Oil Conservation Division

Incident ID	NMAP1825459428
District RP	2RP-4967
Facility ID	N/A
Application ID	pMAP1825459097

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume, excluding gases, of 25 barrels or more
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, Amy Ruth, contacted Mike Bratcher (NMOCD), Maria Pruett (NMOCD), Ryan Mann (SLO), By email on August 28, 2018 at 8:57 am	

Initial Response

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

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

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: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 9/11/2018

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Date: 09/11/18

Incident ID	NMAP1825459428
District RP	2RP-4967
Facility ID	
Application ID	pMAP1825459097

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NMAP1825459428
District RP	2RP-4967
Facility ID	
Application ID	pMAP1825459097

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: Kyle Littrell Title: SH&E Coordinator

Signature:  Date: 9/11/2018

email: Kyle_Littrell@xtoenery.com Telephone: 432-221-7331

OCD Only

Received by: Robert Hamlet Date: 5/8/2019

Incident ID	NMAP1825459428
District RP	2RP-4967
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: Adrian Baker Title: Environmental Coordinator

Signature: Adrian Baker Date: 10/01/21

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: Jennifer Nobui Date: 02/08/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

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

October 1, 2021

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

RE: Closure Request
Elk Wallow 11 State #001H Battery
Incident Number NMAP1825459428
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 as a follow-up to the Deferral Request submitted February 28, 2020. This Closure Request details excavation and soil sampling activities completed at the Elk Wallow 11 State #001H Battery (Site) located in Unit D, Section 11, Township 25 South, Range 29 East, in Eddy County, New Mexico (Figure 1), following final abandonment of the facility to address the remaining impacted soil previously approved for deferral. Based on the additional excavation and soil sampling activities described below, XTO is requesting no further action (NFA) for Incident Number NMAP1825459428.

BACKGROUND

On August 27, 2018, the battery at the Site was struck by lightning, causing a fire that spread to the aboveground storage tanks (ASTs) in the western tank battery containment. The incident caused a release of 723.13 barrels (bbls) of produced water and 33.12 bbls of crude oil. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 468.44 bbls of produced water and 21.56 bbls of crude oil were recovered. XTO gave immediate verbal notification to the New Mexico Oil Conservation Division (NMOCD) and, on September 11, 2018, reported the release on a Release Notification and Corrective Action Form C-141 (Form C-141). XTO conducted both on-pad and off-pad assessment, delineation, and excavation activities. An estimated 8,220 cubic yards of impacted soil were excavated from the Site; however, residual chloride-impacted soil was left in place on pad in the area of floor sample FS11 where electrical equipment was located, in order to comply with XTO's safety policy regarding earth-moving activities within two feet of active pipelines, electrical equipment, and flow lines. An estimated 60 cubic yards of impacted soil remained in place.

XTO requested deferral of final remediation for this release event and proposed to complete remediation in the area of floor sample FS11 during any future major construction, alteration, or final abandonment of the Site. NMOCD approved the Deferral Request via email on April 27, 2020.

The Deferral Request detailed site characterization according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Based on the site characterization, the following Closure Criteria were applied:

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

In April 2021, final abandonment of the Site began. Once all production equipment, electrical lines, and flow lines had been removed from the Site, final remediation of the approved deferred area near floor sample FS11 was scheduled.

EXCAVATION ACTIVITIES AND SOIL ANALYTICAL RESULTS

Between August 3, 2021 and September 2, 2021, WSP personnel were at the Site to oversee excavation activities to remove chloride-impacted soil left in place in the area around floor sample FS11. The original excavation, deferral area, and location of FS11 are depicted on Figure 1.

To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The excavation was completed to a depth ranging from 10 feet to 12 feet bgs. Upon completion of excavation activities, 5-point composite floor samples were collected from the floor and sidewalls of the excavation. Composite samples FS01 through FS07 were collected from the floor of the excavation from depths ranging from 10 feet to 12 feet bgs. Composite sidewall samples SW01 through SW14 were collected from the sidewalls of the excavation from depths ranging from the ground surface to 10 feet bgs.

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

The excavation extent and excavation soil sample locations are depicted on Figure 2. Photographic documentation was conducted during excavation activities and photos are included in Attachment 1.

Laboratory analytical results for floor samples FS01 through FS07 and sidewall samples SW01 through SW07, SW09, SW13, and SW14, collected from the final excavation extent, indicated that benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for sidewall samples SW08, SW10, SW11, and SW12 indicated that chloride concentrations initially exceeded the Closure Criteria. Additional soil was removed from the areas around sidewall samples SW08, SW10, SW11, and SW12 and subsequent sidewall samples SW13 and SW14 were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 2.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the deferred area near initial floor sample FS11. 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 final excavation soil sample analytical results, XTO respectfully requests NFA for Incident Number NMAP1825459428, and will proceed with final reclamation of the abandoned facility.

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

Sincerely,

WSP USA, INC.

Tacoma Morrissey
Consultant Geologist

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

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

Attachments:

Figure 1 Deferral Area
Figure 2 Excavation Soil Sample Locations
Table 1 Laboratory Analytical Results
Attachment 1 Photographic Log

Attachment 2 Laboratory Analytical Reports

FIGURES

IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

- FLOOR SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- DEFERRAL AREA
- EXCAVATION EXTENT

0 40 80
Feet

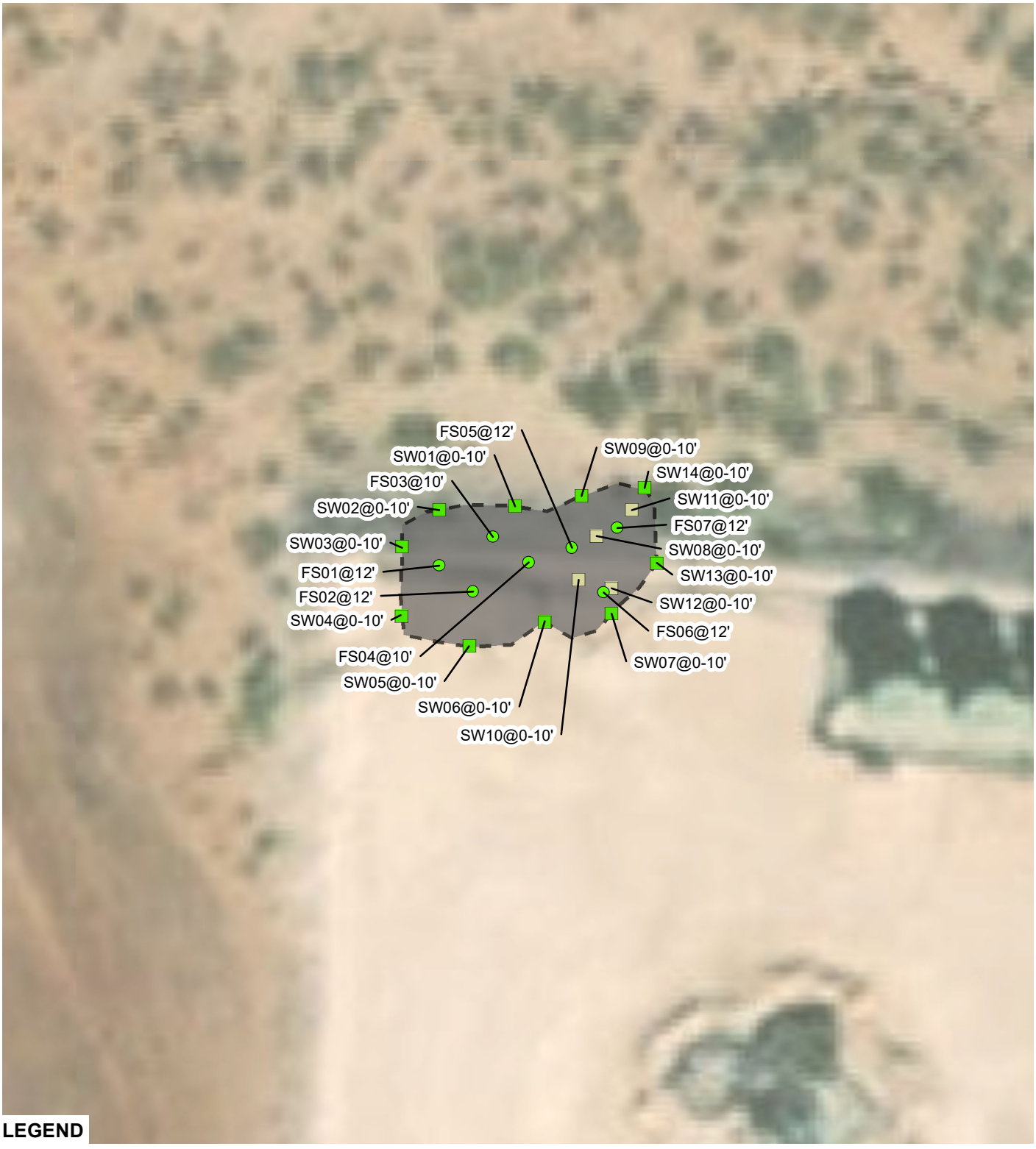
N

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-4967
INCIDENT NUMBER: NMAP1825459428

FIGURE 1
DEFERRAL AREA
ELK WALLOW 11 STATE #001H BATTERY
UNIT D SEC 11 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

wsp

P:\XTO Energy\GIS\MXD\012921045_ELK WALLOW 11 STATE #1\012921045_FIG01_DEFERRAL_2021_428.mxd



LEGEND

- SIDEWALL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA AND HAS BEEN EXCAVATED
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- EXCAVATION EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-4967
INCIDENT NUMBER: NMAP1825459428

IMAGE COURTESY OF ESRI

0 30 60
Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
ELK WALLOW 11 STATE #001H BATTERY
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_FIG02_SS LOC_2021_428.mxd

TABLES

Table 1

Soil Analytical Results
Elk Wallow 11 State #001H Battery
Incident Number NMAP1825459428
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	NE	**100**	**600**
Deferred Sample										
FS11	10/11/2018	3.5	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	**713**
Excavation Floor Samples										
FS01	08/04/2021	12	<0.00198	<0.00396	<49.8	<49.8	<49.8	<49.8	<49.8	24.1
FS02	08/04/2021	12	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	<49.8	580
FS03	08/04/2021	10	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	17.4
FS04	08/04/2021	10	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	428
FS05	08/04/2021	12	<0.00201	<0.00402	<50.0	50.7	<50.0	50.7	50.7	327
FS06	08/23/2021	12	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	401
FS07	08/23/2021	12	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	527
Excavation Sidewall Samples										
SW01	08/03/2021	0 - 10	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	399
SW02	08/03/2021	0 - 10	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	350
SW03	08/03/2021	0 - 10	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	398
SW04	08/03/2021	0 - 10	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	516
SW05	08/03/2021	0 - 10	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	275
SW06	08/03/2021	0 - 10	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	228
SW07	08/04/2021	0 - 10	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	34.6
SW08	08/10/2021	0 - 10	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	**719**
SW09	08/04/2021	0 - 10	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	17.4
SW10	08/10/2021	0 - 10	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	**1,090**
SW11	08/13/2021	0 - 10	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	**763**
SW12	08/13/2021	0 - 10	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	**731**

Table 1

Soil Analytical Results
Elk Wallow 11 State #001H Battery
Incident Number NMAP1825459428
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	NE	**100**	**600**
SW13	08/23/2021	0 - 10	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	20.7
SW14	08/23/2021	0 - 10	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	204

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

Released to Imaging: 2/8/2022 3:41:54 PM

ATTACHMENT 1: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Elk Wallow 11 State #001H Battery Eddy County, New Mexico	NMAP1825459428

Photo No.	Date
1	October 11, 2018

View of deferral area near FS11 facing west.

Photo No.	Date
2	September 2, 2021

View of final excavation extent facing north.

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1044-1
Laboratory Sample Delivery Group: WSP TE012921045
Client Project/Site: Elk Wallow ll

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

Attn: Dan Moir

JKramer

Authorized for release by:
8/5/2021 7:57:39 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1044-1
Project/Site: Elk Wallow II SDG: WSP TE012921045

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1044-1
SDG: WSP TE012921045

Job ID: 890-1044-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1044-1

Receipt
The sample was received on 8/4/2021 10:50 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 5.8°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 II

Job ID: 890-1044-1
SDG: WSP TE012921045

Client Sample ID: SW04

Date Collected: 08/03/21 14:45
Date Received: 08/04/21 10:50
Sample Depth: 0 - 10

Lab Sample ID: 890-1044-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/05/21 09:00	08/05/21 12:54	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/05/21 09:00	08/05/21 12:54	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/05/21 09:00	08/05/21 12:54	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/05/21 09:00	08/05/21 12:54	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/05/21 09:00	08/05/21 12:54	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/05/21 09:00	08/05/21 12:54	1
Total BTEX	<0.00397	U	0.00397		mg/Kg		08/05/21 09:00	08/05/21 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*08/05/21 09:00*	*08/05/21 12:54*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/05/21 09:00*	*08/05/21 12:54*	*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	50.0		mg/Kg		08/05/21 08:40	08/05/21 15:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/05/21 08:40	08/05/21 15:13	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/05/21 08:40	08/05/21 15:13	1
Total TPH	<50.0	U	50.0		mg/Kg		08/05/21 08:40	08/05/21 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*08/05/21 08:40*	*08/05/21 15:13*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/05/21 08:40*	*08/05/21 15:13*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**516**		5.00		mg/Kg			08/05/21 16:09	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1044-1
SDG: WSP TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-1039-A-1-B MSD	Matrix Spike Duplicate	88	82										
890-1039-A-1-G MS	Matrix Spike	105	66 S1-										
890-1044-1	SW04	102	95										
LCS 880-6048/1-A	Lab Control Sample	115	102										
LCSD 880-6048/2-A	Lab Control Sample Dup	118	104										
MB 880-6048/5-A	Method Blank	76	93										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
820-1521-A-41-F MS	Matrix Spike	87	82										
820-1521-A-41-G MSD	Matrix Spike Duplicate	77	71										
890-1044-1	SW04	101	107										
LCS 880-6092/2-A	Lab Control Sample	91	89										
LCSD 880-6092/3-A	Lab Control Sample Dup	95	96										
MB 880-6092/1-A	Method Blank	88	97										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1044-1
SDG: WSP TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6048/5-A
Matrix: Solid
Analysis Batch: 6095

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6048

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/05/21 09:00	08/05/21 12:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/05/21 09:00	08/05/21 12:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/05/21 09:00	08/05/21 12:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/05/21 09:00	08/05/21 12:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/05/21 09:00	08/05/21 12:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/05/21 09:00	08/05/21 12:12	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/05/21 09:00	08/05/21 12:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*08/05/21 09:00*	*08/05/21 12:12*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*08/05/21 09:00*	*08/05/21 12:12*	*1*

Lab Sample ID: LCS 880-6048/1-A
Matrix: Solid
Analysis Batch: 6095

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6048

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09471		mg/Kg		95	70 - 130		
Toluene			0.100	0.09022		mg/Kg		90	70 - 130		
Ethylbenzene			0.100	0.09327		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			0.200	0.1935		mg/Kg		97	70 - 130		
o-Xylene			0.100	0.09658		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-6048/2-A
Matrix: Solid
Analysis Batch: 6095

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6048

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09386		mg/Kg		94	70 - 130	1	35
Toluene			0.100	0.08938		mg/Kg		89	70 - 130	1	35
Ethylbenzene			0.100	0.09279		mg/Kg		93	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1932		mg/Kg		97	70 - 130	0	35
o-Xylene			0.100	0.09682		mg/Kg		97	70 - 130	0	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-1039-A-1-B MSD
Matrix: Solid
Analysis Batch: 6095

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 6048

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F2 F1	0.0990	0.02866	F2 F1	mg/Kg		29	70 - 130	53	35

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1044-1
SDG: WSP TE012921045

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

Lab Sample ID: 890-1039-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 6095 — **Prep Batch: 6048**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	<0.00199	U F1	0.0990	0.04477	F1	mg/Kg		44	70 - 130	35	35
Ethylbenzene	<0.00199	U F2 F1	0.0990	0.04146	F2 F1	mg/Kg		40	70 - 130	45	35
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.198	0.07971	F2 F1	mg/Kg		39	70 - 130	43	35
o-Xylene	<0.00199	U F2 F1	0.0990	0.03993	F2 F1	mg/Kg		39	70 - 130	42	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*

Lab Sample ID: 890-1039-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 6095 — **Prep Batch: 6048**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F2 F1	0.0996	0.04937	F1	mg/Kg		50	70 - 130
Toluene	<0.00199	U F1	0.0996	0.06350	F1	mg/Kg		62	70 - 130
Ethylbenzene	<0.00199	U F2 F1	0.0996	0.06555	F1	mg/Kg		64	70 - 130
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.199	0.1236	F1	mg/Kg		61	70 - 130
o-Xylene	<0.00199	U F2 F1	0.0996	0.06101	F1	mg/Kg		60	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*66*	*S1-*	*70 - 130*

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

Lab Sample ID: MB 880-6092/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 6104 — **Prep Batch: 6092**

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		08/05/21 08:40	08/05/21 12:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/05/21 08:40	08/05/21 12:50	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/05/21 08:40	08/05/21 12:50	1
Total TPH	<50.0	U	50.0	mg/Kg		08/05/21 08:40	08/05/21 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*08/05/21 08:40*	*08/05/21 12:50*	*1*
o-Terphenyl	*97*		*70 - 130*	*08/05/21 08:40*	*08/05/21 12:50*	*1*

Lab Sample ID: LCS 880-6092/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 6104 — **Prep Batch: 6092**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	918.4		mg/Kg		92	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1044-1
SDG: WSP TE012921045

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

Lab Sample ID: LCS 880-6092/2-A
Matrix: Solid
Analysis Batch: 6104

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6092

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	870.4		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: LCSD 880-6092/3-A
Matrix: Solid
Analysis Batch: 6104

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6092

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	869.5		mg/Kg		87	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	931.5		mg/Kg		93	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Lab Sample ID: 820-1521-A-41-F MS
Matrix: Solid
Analysis Batch: 6104

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6092

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 F2	995	906.6		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	869.0		mg/Kg		87	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*87*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Lab Sample ID: 820-1521-A-41-G MSD
Matrix: Solid
Analysis Batch: 6104

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 6092

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1 F2	998	682.3	F1 F2	mg/Kg		66	70 - 130	28	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	765.6		mg/Kg		77	70 - 130	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*77*		*70 - 130*
o-Terphenyl	*71*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1044-1
SDG: WSP TE012921045

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6112/1-A
Matrix: Solid
Analysis Batch: 6128

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			08/05/21 13:24	1

Lab Sample ID: LCS 880-6112/2-A
Matrix: Solid
Analysis Batch: 6128

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	259.2		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-6112/3-A
Matrix: Solid
Analysis Batch: 6128

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	258.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-4801-A-4-B MS
Matrix: Solid
Analysis Batch: 6128

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	171		250	425.3		mg/Kg		102	90 - 110		

Lab Sample ID: 880-4801-A-4-C MSD
Matrix: Solid
Analysis Batch: 6128

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	171		250	423.4		mg/Kg		101	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1044-1
Project/Site: Elk Wallow II SDG: WSP TE012921045

GC VOA

Prep Batch: 6048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1044-1	SW04	Total/NA	Solid	5035	
MB 880-6048/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6048/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6048/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1039-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
890-1039-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	

Analysis Batch: 6095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1044-1	SW04	Total/NA	Solid	8021B	6048
MB 880-6048/5-A	Method Blank	Total/NA	Solid	8021B	6048
LCS 880-6048/1-A	Lab Control Sample	Total/NA	Solid	8021B	6048
LCSD 880-6048/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6048
890-1039-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6048
890-1039-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	6048

GC Semi VOA

Prep Batch: 6092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1044-1	SW04	Total/NA	Solid	8015NM Prep	
MB 880-6092/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6092/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6092/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-1521-A-41-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
820-1521-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 6104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1044-1	SW04	Total/NA	Solid	8015B NM	6092
MB 880-6092/1-A	Method Blank	Total/NA	Solid	8015B NM	6092
LCS 880-6092/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6092
LCSD 880-6092/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6092
820-1521-A-41-F MS	Matrix Spike	Total/NA	Solid	8015B NM	6092
820-1521-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6092

HPLC/IC

Leach Batch: 6112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1044-1	SW04	Soluble	Solid	DI Leach	
MB 880-6112/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6112/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6112/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-4801-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-4801-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 6128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1044-1	SW04	Soluble	Solid	300.0	6112
MB 880-6112/1-A	Method Blank	Soluble	Solid	300.0	6112
LCS 880-6112/2-A	Lab Control Sample	Soluble	Solid	300.0	6112

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1044-1
Project/Site: Elk Wallow II SDG: WSP TE012921045

HPLC/IC (Continued)

Analysis Batch: 6128 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-6112/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6112
880-4801-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	6112
880-4801-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6112

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1044-1
SDG: WSP TE012921045

Client Sample ID: SW04

Date Collected: 08/03/21 14:45
Date Received: 08/04/21 10:50

Lab Sample ID: 890-1044-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6048	08/05/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	6095	08/05/21 12:54	KL	XEN MID
Total/NA	Prep	8015NM Prep			6092	08/05/21 08:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6104	08/05/21 15:13	AJ	XEN MID
Soluble	Leach	DI Leach			6112	08/05/21 11:10	CH	XEN MID
Soluble	Analysis	300.0		1	6128	08/05/21 16:09	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1044-1
Project/Site: Elk Wallow II SDG: WSP 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	06-30-22

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

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

Method Summary

Client: WSP USA Inc. Job ID: 890-1044-1
Project/Site: Elk Wallow II SDG: WSP TE012921045

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 II

Job ID: 890-1044-1
SDG: WSP TE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1044-1	SW04	Solid	08/03/21 14:45	08/04/21 10:50	0 - 10

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Chain of Custody

Work Order No: _____

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
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:	Jeremy.Hill@wsp.com, Dan.Moir@wsp.com

Work Order Comments

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

Project Name:	Elk Wallow 11	Turn Around	
Project Number:	WSP TEC2921045	Routine ☐	
P.O. Number:	04/01/2021	Rush: 24 hr	
Sampler's Name:	Jeremy Hill	Due Date: 8/5/21	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	6.0 / 5.8	Thermometer ID	TNM007	
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Total Containers:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SW04	S	8-3-21	1445	0-10'	1	X	X	X	Composite

890-1044 Chain of Custody

Work Order Notes

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

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

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471: Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Anne Boyer	1020 8/4/21	2 Anne Boyer		8.4.21 1544
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

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8/5/2021

Received by OCD: 11/4/2021 2:30:53 PM

Released to Imaging: 2/8/2022 3:41:54 PM

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1044-1
SDG Number: WSP TE012921045

Login Number: 1044
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: 890-1044-1
SDG Number: WSP TE012921045

Login Number: 1044
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 08/05/21 10:55 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1045-1
Laboratory Sample Delivery Group: WSP TE012921045
Client Project/Site: Elk Wallow ll

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

Attn: Dan Moir

JKramer

Authorized for release by:
8/10/2021 11:58:23 AM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

Client: WSP USA Inc.
Project/Site: Elk Wallow ll

Laboratory Job ID: 890-1045-1
SDG: WSP TE012921045

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1045-1
Project/Site: Elk Wallow II SDG: WSP TE012921045

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

Job ID: 890-1045-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1045-1

Receipt
The samples were received on 8/4/2021 11:08 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 5.8°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 II

Job ID: 890-1045-1
SDG: WSP TE012921045

Client Sample ID: SW01

Lab Sample ID: 890-1045-1
Matrix: Solid
Date Collected: 08/03/21 13:30
Date Received: 08/04/21 11:08
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/05/21 11:00	08/06/21 20:42	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/05/21 11:00	08/06/21 20:42	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/05/21 11:00	08/06/21 20:42	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/05/21 11:00	08/06/21 20:42	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/05/21 11:00	08/06/21 20:42	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/05/21 11:00	08/06/21 20:42	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		08/05/21 11:00	08/06/21 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*08/05/21 11:00*	*08/06/21 20:42*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*08/05/21 11:00*	*08/06/21 20:42*	*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		08/06/21 09:48	08/06/21 13:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 13:04	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 13:04	1
Total TPH	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 13:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*08/06/21 09:48*	*08/06/21 13:04*	*1*
o-Terphenyl	*84*		*70 - 130*	*08/06/21 09:48*	*08/06/21 13:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**399**		5.00		mg/Kg			08/09/21 20:26	1

Client Sample ID: SW02

Lab Sample ID: 890-1045-2
Matrix: Solid
Date Collected: 08/03/21 13:50
Date Received: 08/04/21 11:08
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 21:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 21:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 21:08	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/05/21 11:00	08/06/21 21:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 21:08	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/05/21 11:00	08/06/21 21:08	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		08/05/21 11:00	08/06/21 21:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*08/05/21 11:00*	*08/06/21 21:08*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*08/05/21 11:00*	*08/06/21 21:08*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

Client Sample ID: SW02

Lab Sample ID: 890-1045-2
Matrix: Solid
Date Collected: 08/03/21 13:50
Date Received: 08/04/21 11:08
Sample Depth: 0 - 10

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		08/06/21 09:48	08/06/21 14:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 14:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 14:48	1
Total TPH	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 14:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*08/06/21 09:48*	*08/06/21 14:48*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/06/21 09:48*	*08/06/21 14:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**350**		4.98		mg/Kg			08/09/21 20:43	1

Client Sample ID: SW03

Lab Sample ID: 890-1045-3
Matrix: Solid
Date Collected: 08/03/21 14:10
Date Received: 08/04/21 11:08
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/05/21 11:00	08/06/21 21:34	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/05/21 11:00	08/06/21 21:34	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/05/21 11:00	08/06/21 21:34	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/05/21 11:00	08/06/21 21:34	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/05/21 11:00	08/06/21 21:34	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/05/21 11:00	08/06/21 21:34	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		08/05/21 11:00	08/06/21 21:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*08/05/21 11:00*	*08/06/21 21:34*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*08/05/21 11:00*	*08/06/21 21:34*	*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		08/06/21 09:48	08/06/21 15:09	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 15:09	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 15:09	1
Total TPH	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*08/06/21 09:48*	*08/06/21 15:09*	*1*
o-Terphenyl	*85*		*70 - 130*	*08/06/21 09:48*	*08/06/21 15:09*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**398**		4.96		mg/Kg			08/09/21 20:48	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

Client Sample ID: SW05

Lab Sample ID: 890-1045-4
Matrix: Solid
Date Collected: 08/03/21 15:15
Date Received: 08/04/21 11:08
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 22:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 22:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 22:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/05/21 11:00	08/06/21 22:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 22:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/05/21 11:00	08/06/21 22:00	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/05/21 11:00	08/06/21 22:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*08/05/21 11:00*	*08/06/21 22:00*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*08/05/21 11:00*	*08/06/21 22:00*	*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		08/06/21 09:48	08/06/21 15:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 15:30	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 15:30	1
Total TPH	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*08/06/21 09:48*	*08/06/21 15:30*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/06/21 09:48*	*08/06/21 15:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**275**		4.95		mg/Kg			08/09/21 20:54	1

Client Sample ID: SW06

Lab Sample ID: 890-1045-5
Matrix: Solid
Date Collected: 08/03/21 15:30
Date Received: 08/04/21 11:08
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/05/21 11:00	08/06/21 22:26	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/05/21 11:00	08/06/21 22:26	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/05/21 11:00	08/06/21 22:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/05/21 11:00	08/06/21 22:26	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/05/21 11:00	08/06/21 22:26	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/05/21 11:00	08/06/21 22:26	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		08/05/21 11:00	08/06/21 22:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*08/05/21 11:00*	*08/06/21 22:26*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*08/05/21 11:00*	*08/06/21 22:26*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

Client Sample ID: SW06

Date Collected: 08/03/21 15:30
Date Received: 08/04/21 11:08
Sample Depth: 0 - 10

Lab Sample ID: 890-1045-5

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 15:51	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 15:51	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 15:51	1
Total TPH	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*08/06/21 09:48*	*08/06/21 15:51*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/06/21 09:48*	*08/06/21 15:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**228**		5.05		mg/Kg			08/09/21 20:59	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP 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)
890-1042-A-10-A MS	Matrix Spike	108	109
890-1042-A-10-B MSD	Matrix Spike Duplicate	107	113
890-1045-1	SW01	116	79
890-1045-2	SW02	108	105
890-1045-3	SW03	96	94
890-1045-4	SW05	112	110
890-1045-5	SW06	106	104
LCS 880-6091/1-A	Lab Control Sample	100	106
LCSD 880-6091/2-A	Lab Control Sample Dup	104	112
MB 880-6091/5-A	Method Blank	68 S1-	87
MB 880-6111/5-A	Method Blank	65 S1-	84

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)
890-1045-1	SW01	87	84
890-1045-1 MS	SW01	85	73
890-1045-1 MSD	SW01	84	72
890-1045-2	SW02	99	99
890-1045-3	SW03	89	85
890-1045-4	SW05	97	94
890-1045-5	SW06	97	94
LCS 880-6170/2-A	Lab Control Sample	86	81
LCSD 880-6170/3-A	Lab Control Sample Dup	84	81
MB 880-6170/1-A	Method Blank	92	94

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6091/5-A
Matrix: Solid
Analysis Batch: 6101

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6091

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 14:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 14:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 14:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/05/21 11:00	08/06/21 14:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:00	08/06/21 14:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/05/21 11:00	08/06/21 14:12	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/05/21 11:00	08/06/21 14:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*08/05/21 11:00*	*08/06/21 14:12*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/05/21 11:00*	*08/06/21 14:12*	*1*

Lab Sample ID: LCS 880-6091/1-A
Matrix: Solid
Analysis Batch: 6101

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6091

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1026		mg/Kg		103	70 - 130		
Toluene			0.100	0.09345		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.1010		mg/Kg		101	70 - 130		
m-Xylene & p-Xylene			0.200	0.1952		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.09696		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-6091/2-A
Matrix: Solid
Analysis Batch: 6101

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6091

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1109		mg/Kg		111	70 - 130	8	35
Toluene			0.100	0.09333		mg/Kg		93	70 - 130	0	35
Ethylbenzene			0.100	0.1037		mg/Kg		104	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2028		mg/Kg		101	70 - 130	4	35
o-Xylene			0.100	0.1004		mg/Kg		100	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-1042-A-10-A MS
Matrix: Solid
Analysis Batch: 6101

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.0996	0.09410		mg/Kg		94	70 - 130		

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

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

Lab Sample ID: 890-1042-A-10-A MS
Matrix: Solid
Analysis Batch: 6101

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00199	U	0.0996	0.08873		mg/Kg		88	70 - 130
Ethylbenzene	<0.00199	U	0.0996	0.07470		mg/Kg		74	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1516		mg/Kg		76	70 - 130
o-Xylene	<0.00199	U	0.0996	0.07694		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-1042-A-10-B MSD
Matrix: Solid
Analysis Batch: 6101

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 6091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.1040		mg/Kg		104	70 - 130	10	35
Toluene	<0.00199	U	0.0996	0.09651		mg/Kg		96	70 - 130	8	35
Ethylbenzene	<0.00199	U	0.0996	0.08009		mg/Kg		80	70 - 130	7	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1619		mg/Kg		81	70 - 130	7	35
o-Xylene	<0.00199	U	0.0996	0.08151		mg/Kg		81	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: MB 880-6111/5-A
Matrix: Solid
Analysis Batch: 6101

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6111

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:09	08/05/21 13:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:09	08/05/21 13:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:09	08/05/21 13:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/05/21 11:09	08/05/21 13:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/05/21 11:09	08/05/21 13:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/05/21 11:09	08/05/21 13:37	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/05/21 11:09	08/05/21 13:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*08/05/21 11:09*	*08/05/21 13:37*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*08/05/21 11:09*	*08/05/21 13:37*	*1*

QC Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

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

Lab Sample ID: MB 880-6170/1-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6170

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		08/06/21 09:48	08/06/21 12:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 12:02	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 12:02	1
Total TPH	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 12:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*08/06/21 09:48*	*08/06/21 12:02*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/06/21 09:48*	*08/06/21 12:02*	*1*

Lab Sample ID: LCS 880-6170/2-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6170

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	833.5		mg/Kg		83	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	765.7		mg/Kg		77	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: LCSD 880-6170/3-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6170

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	812.3		mg/Kg		81	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	755.4		mg/Kg		76	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: 890-1045-1 MS
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 6170

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	907.0		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	823.1		mg/Kg		83	70 - 130		

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

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

Lab Sample ID: 890-1045-1 MS
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 6170

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: 890-1045-1 MSD
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 6170

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	931.6		mg/Kg		91	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	812.0		mg/Kg		81	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	72		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6117/1-A
Matrix: Solid
Analysis Batch: 6264

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			08/09/21 20:10	1

Lab Sample ID: LCS 880-6117/2-A
Matrix: Solid
Analysis Batch: 6264

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	265.6		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-6117/3-A
Matrix: Solid
Analysis Batch: 6264

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	262.7		mg/Kg		105	90 - 110	1	20

Lab Sample ID: 890-1045-1 MS
Matrix: Solid
Analysis Batch: 6264

Client Sample ID: SW01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	399		250	650.6		mg/Kg		101	90 - 110		

QC Sample Results

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1045-1 MSD
Matrix: Solid
Analysis Batch: 6264

Client Sample ID: SW01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	399		250	648.0		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

GC VOA

Prep Batch: 6091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1045-1	SW01	Total/NA	Solid	5035	
890-1045-2	SW02	Total/NA	Solid	5035	
890-1045-3	SW03	Total/NA	Solid	5035	
890-1045-4	SW05	Total/NA	Solid	5035	
890-1045-5	SW06	Total/NA	Solid	5035	
MB 880-6091/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6091/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6091/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1042-A-10-A MS	Matrix Spike	Total/NA	Solid	5035	
890-1042-A-10-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 6101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1045-1	SW01	Total/NA	Solid	8021B	6091
890-1045-2	SW02	Total/NA	Solid	8021B	6091
890-1045-3	SW03	Total/NA	Solid	8021B	6091
890-1045-4	SW05	Total/NA	Solid	8021B	6091
890-1045-5	SW06	Total/NA	Solid	8021B	6091
MB 880-6091/5-A	Method Blank	Total/NA	Solid	8021B	6091
MB 880-6111/5-A	Method Blank	Total/NA	Solid	8021B	6111
LCS 880-6091/1-A	Lab Control Sample	Total/NA	Solid	8021B	6091
LCSD 880-6091/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6091
890-1042-A-10-A MS	Matrix Spike	Total/NA	Solid	8021B	6091
890-1042-A-10-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6091

Prep Batch: 6111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6111/5-A	Method Blank	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 6161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1045-1	SW01	Total/NA	Solid	8015B NM	6170
890-1045-2	SW02	Total/NA	Solid	8015B NM	6170
890-1045-3	SW03	Total/NA	Solid	8015B NM	6170
890-1045-4	SW05	Total/NA	Solid	8015B NM	6170
890-1045-5	SW06	Total/NA	Solid	8015B NM	6170
MB 880-6170/1-A	Method Blank	Total/NA	Solid	8015B NM	6170
LCS 880-6170/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6170
LCSD 880-6170/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6170
890-1045-1 MS	SW01	Total/NA	Solid	8015B NM	6170
890-1045-1 MSD	SW01	Total/NA	Solid	8015B NM	6170

Prep Batch: 6170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1045-1	SW01	Total/NA	Solid	8015NM Prep	
890-1045-2	SW02	Total/NA	Solid	8015NM Prep	
890-1045-3	SW03	Total/NA	Solid	8015NM Prep	
890-1045-4	SW05	Total/NA	Solid	8015NM Prep	
890-1045-5	SW06	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1045-1
Project/Site: Elk Wallow II SDG: WSP TE012921045

GC Semi VOA (Continued)

Prep Batch: 6170 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6170/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6170/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6170/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1045-1 MS	SW01	Total/NA	Solid	8015NM Prep	
890-1045-1 MSD	SW01	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 6117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1045-1	SW01	Soluble	Solid	DI Leach	
890-1045-2	SW02	Soluble	Solid	DI Leach	
890-1045-3	SW03	Soluble	Solid	DI Leach	
890-1045-4	SW05	Soluble	Solid	DI Leach	
890-1045-5	SW06	Soluble	Solid	DI Leach	
MB 880-6117/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6117/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6117/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1045-1 MS	SW01	Soluble	Solid	DI Leach	
890-1045-1 MSD	SW01	Soluble	Solid	DI Leach	

Analysis Batch: 6264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1045-1	SW01	Soluble	Solid	300.0	6117
890-1045-2	SW02	Soluble	Solid	300.0	6117
890-1045-3	SW03	Soluble	Solid	300.0	6117
890-1045-4	SW05	Soluble	Solid	300.0	6117
890-1045-5	SW06	Soluble	Solid	300.0	6117
MB 880-6117/1-A	Method Blank	Soluble	Solid	300.0	6117
LCS 880-6117/2-A	Lab Control Sample	Soluble	Solid	300.0	6117
LCSD 880-6117/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6117
890-1045-1 MS	SW01	Soluble	Solid	300.0	6117
890-1045-1 MSD	SW01	Soluble	Solid	300.0	6117

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1045-1
Project/Site: Elk Wallow II SDG: WSP TE012921045

Client Sample ID: SW01 Lab Sample ID: 890-1045-1

Date Collected: 08/03/21 13:30 **Matrix: Solid**
Date Received: 08/04/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6091	08/05/21 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	6101	08/06/21 20:42	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 13:04	AJ	XEN MID
Soluble	Leach	DI Leach			6117	08/05/21 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	6264	08/09/21 20:26	CH	XEN MID

Client Sample ID: SW02 Lab Sample ID: 890-1045-2

Date Collected: 08/03/21 13:50 **Matrix: Solid**
Date Received: 08/04/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6091	08/05/21 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	6101	08/06/21 21:08	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 14:48	AJ	XEN MID
Soluble	Leach	DI Leach			6117	08/05/21 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	6264	08/09/21 20:43	CH	XEN MID

Client Sample ID: SW03 Lab Sample ID: 890-1045-3

Date Collected: 08/03/21 14:10 **Matrix: Solid**
Date Received: 08/04/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6091	08/05/21 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	6101	08/06/21 21:34	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 15:09	AJ	XEN MID
Soluble	Leach	DI Leach			6117	08/05/21 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	6264	08/09/21 20:48	CH	XEN MID

Client Sample ID: SW05 Lab Sample ID: 890-1045-4

Date Collected: 08/03/21 15:15 **Matrix: Solid**
Date Received: 08/04/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6091	08/05/21 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	6101	08/06/21 22:00	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 15:30	AJ	XEN MID
Soluble	Leach	DI Leach			6117	08/05/21 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	6264	08/09/21 20:54	CH	XEN MID

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Elk Wallow II

Job ID: 890-1045-1
SDG: WSP TE012921045

Client Sample ID: SW06

Date Collected: 08/03/21 15:30
Date Received: 08/04/21 11:08

Lab Sample ID: 890-1045-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6091	08/05/21 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	6101	08/06/21 22:26	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 15:51	AJ	XEN MID
Soluble	Leach	DI Leach			6117	08/05/21 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	6264	08/09/21 20:59	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1045-1
Project/Site: Elk Wallow II SDG: WSP 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	06-30-22

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

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

Method Summary

Client: WSP USA Inc. Job ID: 890-1045-1
Project/Site: Elk Wallow II SDG: WSP TE012921045

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 II

Job ID: 890-1045-1
SDG: WSP TE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1045-1	SW01	Solid	08/03/21 13:30	08/04/21 11:08	0 - 10
890-1045-2	SW02	Solid	08/03/21 13:50	08/04/21 11:08	0 - 10
890-1045-3	SW03	Solid	08/03/21 14:10	08/04/21 11:08	0 - 10
890-1045-4	SW05	Solid	08/03/21 15:15	08/04/21 11:08	0 - 10
890-1045-5	SW06	Solid	08/03/21 15:30	08/04/21 11:08	0 - 10

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Chain of Custody

Work Order No: _____

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
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:	Jeremy.Hill@wsp.com, Dan.Moir@wsp.com

Work Order Comments

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

Project Name:	Elk Wallow 11	Turn Around	
Project Number:	WSP TE012921045	Routine	✓
P.O. Number:	04/01/2021	Rush:	
Sampler's Name:	Jeremy Hill	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	6.0/5.6	Thermometer ID	TRM-007
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	

ANALYSIS REQUEST

890-1045 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SW01	S	8-3-21	1330	0-10'	1	X	X	X
SW02			1350					
SW03			1410					
SW05			1515					
SW06			1530					

Work Order Notes

CC#159804 1001
AFE: PA 2020.02331, Exp. 01
API: 30-015-37588
IMC: NAPP2110461999

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

Sample Comments

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 Tl ~~Sn~~ U V Zn

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Anne Byer	8/4/21 1020	2 Anne Byer	Cee Cuff	8.4.21 1044
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

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8/10/2021
Received by OCD: 11/4/2021 2:30:53 PM
Released to Imaging: 2/8/2022 3:41:54 PM

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1045-1
SDG Number: WSP TE012921045

Login Number: 1045
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: 890-1045-1
SDG Number: WSP TE012921045

Login Number: 1045
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 08/05/21 10:55 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1060-1
Laboratory Sample Delivery Group: WSP 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

JKramer

Authorized for release by:
8/6/2021 6:57:45 PM

Jessica Kramer, Project Manager
(432)704-5440
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: 890-1060-1
SDG: WSP TE012921045

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1060-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

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: 890-1060-1
SDG: WSP TE012921045

Job ID: 890-1060-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1060-1

Receipt
The samples were received on 8/5/2021 12:06 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.8°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: 890-1060-1
SDG: WSP TE012921045

Client Sample ID: FS02

Lab Sample ID: 890-1060-1
Matrix: Solid
Date Collected: 08/04/21 11:25
Date Received: 08/05/21 12:06
Sample Depth: - 12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 12:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 12:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 12:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/06/21 08:30	08/06/21 12:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 12:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/06/21 08:30	08/06/21 12:12	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/06/21 08:30	08/06/21 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*08/06/21 08:30*	*08/06/21 12:12*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*08/06/21 08:30*	*08/06/21 12:12*	*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		08/06/21 09:48	08/06/21 14:06	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 14:06	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 14:06	1
Total TPH	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*08/06/21 09:48*	*08/06/21 14:06*	*1*
o-Terphenyl	*86*		*70 - 130*	*08/06/21 09:48*	*08/06/21 14:06*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**580**		4.97		mg/Kg			08/06/21 14:57	1

Client Sample ID: FS04

Lab Sample ID: 890-1060-2
Matrix: Solid
Date Collected: 08/04/21 11:58
Date Received: 08/05/21 12:06
Sample Depth: - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/06/21 08:30	08/06/21 12:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/06/21 08:30	08/06/21 12:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/06/21 08:30	08/06/21 12:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/06/21 08:30	08/06/21 12:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/06/21 08:30	08/06/21 12:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/06/21 08:30	08/06/21 12:33	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		08/06/21 08:30	08/06/21 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*08/06/21 08:30*	*08/06/21 12:33*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/06/21 08:30*	*08/06/21 12:33*	*1*

Client Sample Results

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

Job ID: 890-1060-1
SDG: WSP TE012921045

Client Sample ID: FS04

Date Collected: 08/04/21 11:58
Date Received: 08/05/21 12:06
Sample Depth: - 10

Lab Sample ID: 890-1060-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 14:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 14:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 14:27	1
Total TPH	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*08/06/21 09:48*	*08/06/21 14:27*	*1*
o-Terphenyl	*91*		*70 - 130*	*08/06/21 09:48*	*08/06/21 14:27*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**428**		4.96		mg/Kg			08/06/21 15:13	1

Surrogate Summary

Client: WSP USA Inc. Job ID: 890-1060-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-4798-A-6-A MS	Matrix Spike	105	103										
880-4798-A-6-B MSD	Matrix Spike Duplicate	113	103										
890-1060-1	FS02	112	96										
890-1060-2	FS04	105	95										
LCS 880-6113/1-A	Lab Control Sample	103	104										
LCSD 880-6113/2-A	Lab Control Sample Dup	109	102										
MB 880-6113/5-A	Method Blank	100	95										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-1045-A-1-F MS	Matrix Spike	85	73										
890-1045-A-1-G MSD	Matrix Spike Duplicate	84	72										
890-1060-1	FS02	85	86										
890-1060-2	FS04	89	91										
LCS 880-6170/2-A	Lab Control Sample	86	81										
LCSD 880-6170/3-A	Lab Control Sample Dup	84	81										
MB 880-6170/1-A	Method Blank	92	94										

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-1060-1
SDG: WSP TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6113/5-A
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6113

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/06/21 08:30	08/06/21 11:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*08/06/21 08:30*	*08/06/21 11:30*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/06/21 08:30*	*08/06/21 11:30*	*1*

Lab Sample ID: LCS 880-6113/1-A
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6113

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09719		mg/Kg		97	70 - 130		
Toluene			0.100	0.09121		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.08775		mg/Kg		88	70 - 130		
m-Xylene & p-Xylene			0.200	0.1759		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08785		mg/Kg		88	70 - 130		

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

Lab Sample ID: LCSD 880-6113/2-A
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6113

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09179		mg/Kg		92	70 - 130	6	35
Toluene			0.100	0.08879		mg/Kg		89	70 - 130	3	35
Ethylbenzene			0.100	0.08570		mg/Kg		86	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1737		mg/Kg		87	70 - 130	1	35
o-Xylene			0.100	0.08695		mg/Kg		87	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-4798-A-6-A MS
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6113

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00200	U	0.101	0.08200		mg/Kg		81	70 - 130		

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-1060-1
SDG: WSP TE012921045

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

Lab Sample ID: 880-4798-A-6-A MS
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6113

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.101	0.07626		mg/Kg		75	70 - 130
Ethylbenzene	<0.00200	U	0.101	0.07275		mg/Kg		72	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.202	0.1466		mg/Kg		73	70 - 130
o-Xylene	<0.00200	U	0.101	0.07333		mg/Kg		73	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-4798-A-6-B MSD
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 6113

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	0.07877		mg/Kg		79	70 - 130	4	35
Toluene	<0.00200	U	0.0994	0.07611		mg/Kg		77	70 - 130	0	35
Ethylbenzene	<0.00200	U	0.0994	0.07282		mg/Kg		73	70 - 130	0	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1487		mg/Kg		75	70 - 130	1	35
o-Xylene	<0.00200	U	0.0994	0.07554		mg/Kg		76	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

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

Lab Sample ID: MB 880-6170/1-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6170

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		08/06/21 09:48	08/06/21 12:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 12:02	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 12:02	1
Total TPH	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 12:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*08/06/21 09:48*	*08/06/21 12:02*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/06/21 09:48*	*08/06/21 12:02*	*1*

Lab Sample ID: LCS 880-6170/2-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6170

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			1000	833.5		mg/Kg		83	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-1060-1
SDG: WSP TE012921045

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

Lab Sample ID: LCS 880-6170/2-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6170

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	765.7		mg/Kg		77	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: LCSD 880-6170/3-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6170

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	812.3		mg/Kg		81	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	755.4		mg/Kg		76	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: 890-1045-A-1-F MS
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6170

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	907.0		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	823.1		mg/Kg		83	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*73*		*70 - 130*

Lab Sample ID: 890-1045-A-1-G MSD
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 6170

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	931.6		mg/Kg		91	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	812.0		mg/Kg		81	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*72*		*70 - 130*

QC Sample Results

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

Job ID: 890-1060-1
SDG: WSP TE012921045

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6177/1-A
Matrix: Solid
Analysis Batch: 6181

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			08/06/21 14:08	1

Lab Sample ID: LCS 880-6177/2-A
Matrix: Solid
Analysis Batch: 6181

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	260.3		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-6177/3-A
Matrix: Solid
Analysis Batch: 6181

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	260.2		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 880-4846-A-23-B MS
Matrix: Solid
Analysis Batch: 6181

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	<4.99	U	250	265.3		mg/Kg		105	90 - 110		

Lab Sample ID: 880-4846-A-23-C MSD
Matrix: Solid
Analysis Batch: 6181

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<4.99	U	250	265.5		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1060-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

GC VOA

Prep Batch: 6113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1060-1	FS02	Total/NA	Solid	5035	
890-1060-2	FS04	Total/NA	Solid	5035	
MB 880-6113/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6113/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6113/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-4798-A-6-A MS	Matrix Spike	Total/NA	Solid	5035	
880-4798-A-6-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 6155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1060-1	FS02	Total/NA	Solid	8021B	6113
890-1060-2	FS04	Total/NA	Solid	8021B	6113
MB 880-6113/5-A	Method Blank	Total/NA	Solid	8021B	6113
LCS 880-6113/1-A	Lab Control Sample	Total/NA	Solid	8021B	6113
LCSD 880-6113/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6113
880-4798-A-6-A MS	Matrix Spike	Total/NA	Solid	8021B	6113
880-4798-A-6-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6113

GC Semi VOA

Analysis Batch: 6161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1060-1	FS02	Total/NA	Solid	8015B NM	6170
890-1060-2	FS04	Total/NA	Solid	8015B NM	6170
MB 880-6170/1-A	Method Blank	Total/NA	Solid	8015B NM	6170
LCS 880-6170/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6170
LCSD 880-6170/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6170
890-1045-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	6170
890-1045-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6170

Prep Batch: 6170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1060-1	FS02	Total/NA	Solid	8015NM Prep	
890-1060-2	FS04	Total/NA	Solid	8015NM Prep	
MB 880-6170/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6170/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6170/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1045-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1045-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 6177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1060-1	FS02	Soluble	Solid	DI Leach	
890-1060-2	FS04	Soluble	Solid	DI Leach	
MB 880-6177/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6177/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6177/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-4846-A-23-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-4846-A-23-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1060-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

HPLC/IC

Analysis Batch: 6181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1060-1	FS02	Soluble	Solid	300.0	6177
890-1060-2	FS04	Soluble	Solid	300.0	6177
MB 880-6177/1-A	Method Blank	Soluble	Solid	300.0	6177
LCS 880-6177/2-A	Lab Control Sample	Soluble	Solid	300.0	6177
LCSD 880-6177/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6177
880-4846-A-23-B MS	Matrix Spike	Soluble	Solid	300.0	6177
880-4846-A-23-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6177

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1060-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

Client Sample ID: FS02 Lab Sample ID: 890-1060-1

Date Collected: 08/04/21 11:25 **Matrix: Solid**
Date Received: 08/05/21 12:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6113	08/06/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	6155	08/06/21 12:12	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 14:06	AJ	XEN MID
Soluble	Leach	DI Leach			6177	08/06/21 11:31	SC	XEN MID
Soluble	Analysis	300.0		1	6181	08/06/21 14:57	SC	XEN MID

Client Sample ID: FS04 Lab Sample ID: 890-1060-2

Date Collected: 08/04/21 11:58 **Matrix: Solid**
Date Received: 08/05/21 12:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6113	08/06/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	6155	08/06/21 12:33	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 14:27	AJ	XEN MID
Soluble	Leach	DI Leach			6177	08/06/21 11:31	SC	XEN MID
Soluble	Analysis	300.0		1	6181	08/06/21 15:13	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1060-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP 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	06-30-22

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

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

Method Summary

Client: WSP USA Inc. Job ID: 890-1060-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

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: 890-1060-1
SDG: WSP TE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1060-1	FS02	Solid	08/04/21 11:25	08/05/21 12:06	- 12
890-1060-2	FS04	Solid	08/04/21 11:58	08/05/21 12:06	- 10

INC: NAPP2110461944 CC: 159809100 AFE: PA.2020.02331, Exp.01 API: 30-015-37588

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Work Order No: _____

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Project Manager:	Dan Moir	Bill to: (If different)	Kyle Littrell
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

Work Order Comments

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

Project Name:	Elk Wallow 11 State #1	Turn Around	
Project Number:	WSP TE0129 21045	Routine ☐	
Project Location	Eddy County	Rush: 24hr	
Sampler's Name:	Alexis Castro	Due Date: 8/6/21	
PO #:	4/1/21	Quote #:	

SAMPLE RECEIPT			
Temperature (°C):	6.0/5.8	Thermometer ID	IR-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No

ANALYSIS REQUEST

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
	FS02	S	8-4-21	1125	12'	1		X	X	X
	FS04	S	8-4-21	1158	10'	1		X	X	X

890-1060 Chain of Custody

Preservative Codes

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

TAT starts the day recevied by the lab, if received by 4:00pm

Sample Comments

Composite

AC

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010:** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8.5.21 1200	2		
3			4		
5			6		

Revised Date 022619 Rev. 2019.1

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8/6/2021
Released to Imaging: 2/8/2022 3:41:54 PM

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-337 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana, NELAP - Texas		Job #: 890-1060-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 8/6/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Elk Wallow 11 State #1	Project #: 89000004			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
FS02 (890-1060-1)	8/4/21	11 25 Mountain		Solid			X	X	X	1	
FS04 (890-1060-2)	8/4/21	11 58 Mountain		Solid			X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by: Cloe Cuff 8.5.21	Date/Time:	Company:	Received by:	Date/Time: 8-6-21 11:000.m	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	

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

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Released to Imaging: 2/8/2022 3:41:54 PM

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1060-1
SDG Number: WSP TE012921045

Login Number: 1060
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: 890-1060-1
SDG Number: WSP TE012921045

Login Number: 1060
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 08/06/21 10:56 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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1061-1
Laboratory Sample Delivery Group: WSP 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

JKramer

Authorized for release by:
8/11/2021 11:59:23 AM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

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

Laboratory Job ID: 890-1061-1
SDG: WSP TE012921045

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1061-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc. Job ID: 890-1061-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

Job ID: 890-1061-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1061-1

Receipt
The samples were received on 8/5/2021 12:00 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 5.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-6175 and analytical batch 880-6155 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
No 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: 890-1061-1
SDG: WSP TE012921045

Client Sample ID: FS01

Lab Sample ID: 890-1061-1
Matrix: Solid

Date Collected: 08/04/21 11:25
Date Received: 08/05/21 12:00
Sample Depth: - 12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/06/21 11:27	08/07/21 01:20	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/06/21 11:27	08/07/21 01:20	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/06/21 11:27	08/07/21 01:20	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/06/21 11:27	08/07/21 01:20	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/06/21 11:27	08/07/21 01:20	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/06/21 11:27	08/07/21 01:20	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		08/06/21 11:27	08/07/21 01:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*08/06/21 11:27*	*08/07/21 01:20*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*08/06/21 11:27*	*08/07/21 01:20*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 18:55	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 18:55	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 18:55	1
Total TPH	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*08/06/21 09:48*	*08/06/21 18:55*	*1*
o-Terphenyl	*92*		*70 - 130*	*08/06/21 09:48*	*08/06/21 18:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.1**		5.00		mg/Kg			08/10/21 17:02	1

Client Sample ID: SW07

Lab Sample ID: 890-1061-2
Matrix: Solid

Date Collected: 08/04/21 13:05
Date Received: 08/05/21 12:00
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/07/21 01:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/07/21 01:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/07/21 01:40	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/06/21 11:27	08/07/21 01:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/07/21 01:40	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/06/21 11:27	08/07/21 01:40	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		08/06/21 11:27	08/07/21 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*08/06/21 11:27*	*08/07/21 01:40*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/06/21 11:27*	*08/07/21 01:40*	*1*

Client Sample Results

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

Job ID: 890-1061-1
SDG: WSP TE012921045

Client Sample ID: SW07

Lab Sample ID: 890-1061-2
Matrix: Solid
Date Collected: 08/04/21 13:05
Date Received: 08/05/21 12:00
Sample Depth: 0 - 10

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		08/06/21 09:48	08/06/21 19:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 19:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 19:15	1
Total TPH	<49.9	U	49.9		mg/Kg		08/06/21 09:48	08/06/21 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*08/06/21 09:48*	*08/06/21 19:15*	*1*
o-Terphenyl	*89*		*70 - 130*	*08/06/21 09:48*	*08/06/21 19:15*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34.6**		4.98		mg/Kg			08/10/21 17:07	1

Client Sample ID: FS03

Lab Sample ID: 890-1061-3
Matrix: Solid
Date Collected: 08/04/21 15:10
Date Received: 08/05/21 12:00
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/07/21 03:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/07/21 03:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/07/21 03:43	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/06/21 11:27	08/07/21 03:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/07/21 03:43	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/06/21 11:27	08/07/21 03:43	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		08/06/21 11:27	08/07/21 03:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*	*08/06/21 11:27*	*08/07/21 03:43*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*08/06/21 11:27*	*08/07/21 03:43*	*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		08/06/21 09:48	08/06/21 19:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 19:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 19:35	1
Total TPH	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*08/06/21 09:48*	*08/06/21 19:35*	*1*
o-Terphenyl	*92*		*70 - 130*	*08/06/21 09:48*	*08/06/21 19:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.4**		5.05		mg/Kg			08/10/21 17:13	1

Client Sample Results

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

Job ID: 890-1061-1
SDG: WSP TE012921045

Client Sample ID: SW09

Date Collected: 08/04/21 15:34
Date Received: 08/05/21 12:00
Sample Depth: 0 - 10

Lab Sample ID: 890-1061-4

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/06/21 11:27	08/07/21 04:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/06/21 11:27	08/07/21 04:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/06/21 11:27	08/07/21 04:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/06/21 11:27	08/07/21 04:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/06/21 11:27	08/07/21 04:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/06/21 11:27	08/07/21 04:03	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		08/06/21 11:27	08/07/21 04:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*08/06/21 11:27*	*08/07/21 04:03*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*08/06/21 11:27*	*08/07/21 04:03*	*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		08/06/21 09:48	08/06/21 19:55	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 19:55	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 19:55	1
Total TPH	<49.8	U	49.8		mg/Kg		08/06/21 09:48	08/06/21 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*08/06/21 09:48*	*08/06/21 19:55*	*1*
o-Terphenyl	*91*		*70 - 130*	*08/06/21 09:48*	*08/06/21 19:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.4**		5.04		mg/Kg			08/10/21 17:19	1

Surrogate Summary

Client: WSP USA Inc. Job ID: 890-1061-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-4850-A-1-B MS	Matrix Spike	112	83										
880-4850-A-1-C MSD	Matrix Spike Duplicate	88	96										
890-1061-1	FS01	120	92										
890-1061-2	SW07	115	95										
890-1061-3	FS03	125	112										
890-1061-4	SW09	111	100										
LCS 880-6175/1-A	Lab Control Sample	108	105										
LCSD 880-6175/2-A	Lab Control Sample Dup	108	105										
MB 880-6113/5-A	Method Blank	100	95										
MB 880-6175/5-A	Method Blank	95	94										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-1045-A-1-F MS	Matrix Spike	85	73										
890-1045-A-1-G MSD	Matrix Spike Duplicate	84	72										
890-1061-1	FS01	88	92										
890-1061-2	SW07	86	89										
890-1061-3	FS03	91	92										
890-1061-4	SW09	89	91										
LCS 880-6170/2-A	Lab Control Sample	86	81										
LCSD 880-6170/3-A	Lab Control Sample Dup	84	81										
MB 880-6170/1-A	Method Blank	92	94										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-1061-1
SDG: WSP TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6113/5-A
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6113

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/06/21 08:30	08/06/21 11:30	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/06/21 08:30	08/06/21 11:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*08/06/21 08:30*	*08/06/21 11:30*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/06/21 08:30*	*08/06/21 11:30*	*1*

Lab Sample ID: MB 880-6175/5-A
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6175

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/06/21 22:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/06/21 22:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/06/21 22:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/06/21 11:27	08/06/21 22:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/06/21 11:27	08/06/21 22:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/06/21 11:27	08/06/21 22:56	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/06/21 11:27	08/06/21 22:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*08/06/21 11:27*	*08/06/21 22:56*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*08/06/21 11:27*	*08/06/21 22:56*	*1*

Lab Sample ID: LCS 880-6175/1-A
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6175

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1012		mg/Kg		101	70 - 130		
Toluene			0.100	0.09388		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.09026		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene			0.200	0.1841		mg/Kg		92	70 - 130		
o-Xylene			0.100	0.09683		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

QC Sample Results

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

Job ID: 890-1061-1
SDG: WSP TE012921045

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

Lab Sample ID: LCSD 880-6175/2-A
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6175

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1004		mg/Kg		100	70 - 130	1	35
Toluene			0.100	0.09154		mg/Kg		92	70 - 130	3	35
Ethylbenzene			0.100	0.09022		mg/Kg		90	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.1853		mg/Kg		93	70 - 130	1	35
o-Xylene			0.100	0.09673		mg/Kg		97	70 - 130	0	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-4850-A-1-B MS
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6175

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F1 F2	0.0998	0.05032	F1	mg/Kg		50	70 - 130
Toluene	<0.00200	U F1 F2	0.0998	0.05855	F1	mg/Kg		58	70 - 130
Ethylbenzene	<0.00200	U F1 F2	0.0998	0.05773	F1	mg/Kg		58	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.200	0.1145	F1	mg/Kg		57	70 - 130
o-Xylene	<0.00200	U F1 F2	0.0998	0.05629	F1	mg/Kg		56	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*

Lab Sample ID: 880-4850-A-1-C MSD
Matrix: Solid
Analysis Batch: 6155

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 6175

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.100	0.02992	F1 F2	mg/Kg		30	70 - 130	51	35
Toluene	<0.00200	U F1 F2	0.100	0.02988	F1 F2	mg/Kg		29	70 - 130	65	35
Ethylbenzene	<0.00200	U F1 F2	0.100	0.02959	F1 F2	mg/Kg		30	70 - 130	64	35
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.200	0.05385	F1 F2	mg/Kg		27	70 - 130	72	35
o-Xylene	<0.00200	U F1 F2	0.100	0.02941	F1 F2	mg/Kg		29	70 - 130	63	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

QC Sample Results

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

Job ID: 890-1061-1
SDG: WSP TE012921045

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

Lab Sample ID: MB 880-6170/1-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6170

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		08/06/21 09:48	08/06/21 12:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 12:02	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 12:02	1
Total TPH	<50.0	U	50.0		mg/Kg		08/06/21 09:48	08/06/21 12:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*08/06/21 09:48*	*08/06/21 12:02*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/06/21 09:48*	*08/06/21 12:02*	*1*

Lab Sample ID: LCS 880-6170/2-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6170

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	833.5		mg/Kg		83	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	765.7		mg/Kg		77	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: LCSD 880-6170/3-A
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6170

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	812.3		mg/Kg		81	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	755.4		mg/Kg		76	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*81*		*70 - 130*

Lab Sample ID: 890-1045-A-1-F MS
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6170

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	907.0		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	823.1		mg/Kg		83	70 - 130		

QC Sample Results

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

Job ID: 890-1061-1
SDG: WSP TE012921045

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

Lab Sample ID: 890-1045-A-1-F MS
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6170

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: 890-1045-A-1-G MSD
Matrix: Solid
Analysis Batch: 6161

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 6170

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	931.6		mg/Kg		91	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	812.0		mg/Kg		81	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	72		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6257/1-A
Matrix: Solid
Analysis Batch: 6296

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			08/10/21 14:31	1

Lab Sample ID: LCS 880-6257/2-A
Matrix: Solid
Analysis Batch: 6296

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	248.7		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-6257/3-A
Matrix: Solid
Analysis Batch: 6296

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	248.5		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-4853-A-13-B MS
Matrix: Solid
Analysis Batch: 6296

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	17.9		250	257.2		mg/Kg		96	90 - 110		

QC Sample Results

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

Job ID: 890-1061-1
SDG: WSP TE012921045

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-4853-A-13-C MSD
Matrix: Solid
Analysis Batch: 6296

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	17.9		250	256.7		mg/Kg		96	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1061-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

GC VOA

Prep Batch: 6113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6113/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 6155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1061-1	FS01	Total/NA	Solid	8021B	6175
890-1061-2	SW07	Total/NA	Solid	8021B	6175
890-1061-3	FS03	Total/NA	Solid	8021B	6175
890-1061-4	SW09	Total/NA	Solid	8021B	6175
MB 880-6113/5-A	Method Blank	Total/NA	Solid	8021B	6113
MB 880-6175/5-A	Method Blank	Total/NA	Solid	8021B	6175
LCS 880-6175/1-A	Lab Control Sample	Total/NA	Solid	8021B	6175
LCSD 880-6175/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6175
880-4850-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	6175
880-4850-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6175

Prep Batch: 6175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1061-1	FS01	Total/NA	Solid	5035	
890-1061-2	SW07	Total/NA	Solid	5035	
890-1061-3	FS03	Total/NA	Solid	5035	
890-1061-4	SW09	Total/NA	Solid	5035	
MB 880-6175/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6175/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6175/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-4850-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-4850-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 6161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1061-1	FS01	Total/NA	Solid	8015B NM	6170
890-1061-2	SW07	Total/NA	Solid	8015B NM	6170
890-1061-3	FS03	Total/NA	Solid	8015B NM	6170
890-1061-4	SW09	Total/NA	Solid	8015B NM	6170
MB 880-6170/1-A	Method Blank	Total/NA	Solid	8015B NM	6170
LCS 880-6170/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6170
LCSD 880-6170/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6170
890-1045-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	6170
890-1045-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6170

Prep Batch: 6170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1061-1	FS01	Total/NA	Solid	8015NM Prep	
890-1061-2	SW07	Total/NA	Solid	8015NM Prep	
890-1061-3	FS03	Total/NA	Solid	8015NM Prep	
890-1061-4	SW09	Total/NA	Solid	8015NM Prep	
MB 880-6170/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6170/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6170/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1045-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1061-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

GC Semi VOA (Continued)

Prep Batch: 6170 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1045-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 6257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1061-1	FS01	Soluble	Solid	DI Leach	
890-1061-2	SW07	Soluble	Solid	DI Leach	
890-1061-3	FS03	Soluble	Solid	DI Leach	
890-1061-4	SW09	Soluble	Solid	DI Leach	
MB 880-6257/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6257/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6257/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-4853-A-13-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-4853-A-13-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 6296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1061-1	FS01	Soluble	Solid	300.0	6257
890-1061-2	SW07	Soluble	Solid	300.0	6257
890-1061-3	FS03	Soluble	Solid	300.0	6257
890-1061-4	SW09	Soluble	Solid	300.0	6257
MB 880-6257/1-A	Method Blank	Soluble	Solid	300.0	6257
LCS 880-6257/2-A	Lab Control Sample	Soluble	Solid	300.0	6257
LCSD 880-6257/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6257
880-4853-A-13-B MS	Matrix Spike	Soluble	Solid	300.0	6257
880-4853-A-13-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6257

Lab Chronicle

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

Job ID: 890-1061-1
SDG: WSP TE012921045

Client Sample ID: FS01
Lab Sample ID: 890-1061-1
Date Collected: 08/04/21 11:25
Matrix: Solid
Date Received: 08/05/21 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6175	08/06/21 11:27	MR	XEN MID
Total/NA	Analysis	8021B		1	6155	08/07/21 01:20	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 18:55	AJ	XEN MID
Soluble	Leach	DI Leach			6257	08/09/21 14:55	CH	XEN MID
Soluble	Analysis	300.0		1	6296	08/10/21 17:02	CH	XEN MID

Client Sample ID: SW07
Lab Sample ID: 890-1061-2
Date Collected: 08/04/21 13:05
Matrix: Solid
Date Received: 08/05/21 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6175	08/06/21 11:27	MR	XEN MID
Total/NA	Analysis	8021B		1	6155	08/07/21 01:40	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 19:15	AJ	XEN MID
Soluble	Leach	DI Leach			6257	08/09/21 14:55	CH	XEN MID
Soluble	Analysis	300.0		1	6296	08/10/21 17:07	CH	XEN MID

Client Sample ID: FS03
Lab Sample ID: 890-1061-3
Date Collected: 08/04/21 15:10
Matrix: Solid
Date Received: 08/05/21 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6175	08/06/21 11:27	MR	XEN MID
Total/NA	Analysis	8021B		1	6155	08/07/21 03:43	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 19:35	AJ	XEN MID
Soluble	Leach	DI Leach			6257	08/09/21 14:55	CH	XEN MID
Soluble	Analysis	300.0		1	6296	08/10/21 17:13	CH	XEN MID

Client Sample ID: SW09
Lab Sample ID: 890-1061-4
Date Collected: 08/04/21 15:34
Matrix: Solid
Date Received: 08/05/21 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6175	08/06/21 11:27	MR	XEN MID
Total/NA	Analysis	8021B		1	6155	08/07/21 04:03	MR	XEN MID
Total/NA	Prep	8015NM Prep			6170	08/06/21 09:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6161	08/06/21 19:55	AJ	XEN MID
Soluble	Leach	DI Leach			6257	08/09/21 14:55	CH	XEN MID
Soluble	Analysis	300.0		1	6296	08/10/21 17:19	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1061-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP 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	06-30-22

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

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

Method Summary

Client: WSP USA Inc. Job ID: 890-1061-1
Project/Site: Elk Wallow 11 State #1 SDG: WSP TE012921045

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: 890-1061-1
SDG: WSP TE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1061-1	FS01	Solid	08/04/21 11:25	08/05/21 12:00	- 12
890-1061-2	SW07	Solid	08/04/21 13:05	08/05/21 12:00	0 - 10
890-1061-3	FS03	Solid	08/04/21 15:10	08/05/21 12:00	0 - 10
890-1061-4	SW09	Solid	08/04/21 15:34	08/05/21 12:00	0 - 10

INC: NAPP2110461944 CC#: 159804001 AFE: PA.2020.02331. EXP.01 API: 30-015-37538

Chain of Custody

Work Order No: _____

XENCO LABORATORIES
Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

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8/11/2021

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
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

Work Order Comments

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

Project Name:	Elk Wallow 11 State #1	Turn Around	
Project Number:	WSPTE012921045	Routine	☑
Project Location	Eddy County	Rush:	
Sampler's Name:	Alexis Castro	Due Date:	
PO #:	7/1/21	Quote #:	

SAMPLE RECEIPT			
Temperature (°C):	6.0 / 5.8	Thermometer ID	TNM-007
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	
Temp Blank:	Yes No	Wet Ice:	Yes No

ANALYSIS REQUEST

Preservative Codes

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

TAT starts the day recevied by the lab, if received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
	FS01	S	8-4-21	1125	12'	1		X	X	X	Composite
	SW07			1305	0-10'						
	FS03			1510	10'						
	SW09			1534	0-10'						

890-1061 Chain of Custody

AC

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

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			8.5.21 1200	2		
3				4		
5				6		

Revised Date 022619 Rev. 2019.1

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-337 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana, NELAP - Texas		Job #: 890-1061-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 8/11/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Elk Wallow 11 State #1	Project #: 89000004			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
FS01 (890-1061-1)	8/4/21	11 25 Mountain		Solid			X	X	X	1	
SW07 (890-1061-2)	8/4/21	13 05 Mountain		Solid			X	X	X	1	
FS03 (890-1061-3)	8/4/21	15 10 Mountain		Solid			X	X	X	1	
SW09 (890-1061-4)	8/4/21	15 34 Mountain		Solid			X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by: Cice Cuf 8.5.21	Date/Time	Company	Received by:	Date/Time: 8-6-21 11:00 a.m	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

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

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Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1061-1
SDG Number: WSP TE012921045

Login Number: 1061
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: 890-1061-1
SDG Number: WSP TE012921045

Login Number: 1061
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 08/06/21 10:56 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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1088-1
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

JKramer

Authorized for release by:
8/11/2021 8:27:36 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

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

Laboratory Job ID: 890-1088-1
SDG: TE012921045

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1088-1
Project/Site: Elk Wallow 11 State #1 SDG: TE012921045

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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: 890-1088-1
SDG: TE012921045

Job ID: 890-1088-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1088-1

Receipt
The samples were received on 8/10/2021 1:08 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: SW08 (890-1088-1) and SW10 (890-1088-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
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: 890-1088-1
SDG: TE012921045

Client Sample ID: SW08

Lab Sample ID: 890-1088-1
Matrix: Solid
Date Collected: 08/10/21 10:30
Date Received: 08/10/21 13:08
Sample Depth: 0 - 10

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 12:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/11/21 11:25	08/11/21 12:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/11/21 11:25	08/11/21 12:09	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/11/21 11:25	08/11/21 12:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/11/21 11:25	08/11/21 12:09	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/11/21 11:25	08/11/21 12:09	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		08/11/21 11:25	08/11/21 12:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*150*	*S1+*	*70 - 130*	*08/11/21 11:25*	*08/11/21 12:09*	*1*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*	*08/11/21 11:25*	*08/11/21 12:09*	*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	<49.8	U	49.8		mg/Kg		08/11/21 10:19	08/11/21 14:50	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/11/21 10:19	08/11/21 14:50	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/11/21 10:19	08/11/21 14:50	1
Total TPH	<49.8	U	49.8		mg/Kg		08/11/21 10:19	08/11/21 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*08/11/21 10:19*	*08/11/21 14:50*	*1*
o-Terphenyl	*113*		*70 - 130*	*08/11/21 10:19*	*08/11/21 14:50*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**719**	**F1**	5.04		mg/Kg			08/11/21 18:23	1

Client Sample ID: SW10

Lab Sample ID: 890-1088-2
Matrix: Solid
Date Collected: 08/10/21 10:36
Date Received: 08/10/21 13:08
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/11/21 11:25	08/11/21 12:35	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/11/21 11:25	08/11/21 12:35	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/11/21 11:25	08/11/21 12:35	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/11/21 11:25	08/11/21 12:35	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/11/21 11:25	08/11/21 12:35	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/11/21 11:25	08/11/21 12:35	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		08/11/21 11:25	08/11/21 12:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*162*	*S1+*	*70 - 130*	*08/11/21 11:25*	*08/11/21 12:35*	*1*
1,4-Difluorobenzene (Surr)	*125*		*70 - 130*	*08/11/21 11:25*	*08/11/21 12:35*	*1*

Client Sample Results

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

Job ID: 890-1088-1
SDG: TE012921045

Client Sample ID: SW10

Date Collected: 08/10/21 10:36
Date Received: 08/10/21 13:08
Sample Depth: 0 - 10

Lab Sample ID: 890-1088-2

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	<50.0	U	50.0		mg/Kg		08/11/21 10:19	08/11/21 15:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/11/21 10:19	08/11/21 15:11	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/11/21 10:19	08/11/21 15:11	1
Total TPH	<50.0	U	50.0		mg/Kg		08/11/21 10:19	08/11/21 15:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*08/11/21 10:19*	*08/11/21 15:11*	*1*
o-Terphenyl	*119*		*70 - 130*	*08/11/21 10:19*	*08/11/21 15:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1090		4.97		mg/Kg			08/11/21 18:38	1

Surrogate Summary

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

Job ID: 890-1088-1
SDG: TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-1077-A-16-B MS	Matrix Spike	275 S1+	106
890-1077-A-16-C MSD	Matrix Spike Duplicate	152 S1+	128
890-1088-1	SW08	150 S1+	123
890-1088-2	SW10	162 S1+	125
LCS 880-6315/1-A	Lab Control Sample	133 S1+	129
LCSD 880-6315/2-A	Lab Control Sample Dup	128	123
MB 880-6281/5-A	Method Blank	80	98
MB 880-6315/5-A	Method Blank	83	107

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-4997-A-1-E MS	Matrix Spike	91	95
880-4997-A-1-F MSD	Matrix Spike Duplicate	90	96
890-1088-1	SW08	101	113
890-1088-2	SW10	105	119
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

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-1088-1
SDG: TE012921045

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*

QC Sample Results

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

Job ID: 890-1088-1
SDG: TE012921045

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		
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*

QC Sample Results

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

Job ID: 890-1088-1
SDG: TE012921045

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
OII 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		

QC Sample Results

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

Job ID: 890-1088-1
SDG: TE012921045

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

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

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: 890-1088-1 MS
Matrix: Solid
Analysis Batch: 6404

Client Sample ID: SW08
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	719	F1	252	1027	F1	mg/Kg		122	90 - 110		

QC Sample Results

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

Job ID: 890-1088-1
SDG: TE012921045

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1088-1 MSD
Matrix: Solid
Analysis Batch: 6404

Client Sample ID: SW08
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	719	F1	252	901.8	F1	mg/Kg		73	90 - 110	13	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1088-1
Project/Site: Elk Wallow 11 State #1 SDG: TE012921045

GC VOA

Analysis Batch: 6278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1088-1	SW08	Total/NA	Solid	8021B	6315
890-1088-2	SW10	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
890-1088-1	SW08	Total/NA	Solid	5035	
890-1088-2	SW10	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	

GC Semi VOA

Analysis Batch: 6361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1088-1	SW08	Total/NA	Solid	8015B NM	6382
890-1088-2	SW10	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
890-1088-1	SW08	Total/NA	Solid	8015NM Prep	
890-1088-2	SW10	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
890-1088-1	SW08	Soluble	Solid	DI Leach	
890-1088-2	SW10	Soluble	Solid	DI Leach	
MB 880-6394/1-A	Method Blank	Soluble	Solid	DI Leach	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1088-1
Project/Site: Elk Wallow 11 State #1 SDG: TE012921045

HPLC/IC (Continued)

Leach Batch: 6394 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
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	
890-1088-1 MS	SW08	Soluble	Solid	DI Leach	
890-1088-1 MSD	SW08	Soluble	Solid	DI Leach	

Analysis Batch: 6404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1088-1	SW08	Soluble	Solid	300.0	6394
890-1088-2	SW10	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
890-1088-1 MS	SW08	Soluble	Solid	300.0	6394
890-1088-1 MSD	SW08	Soluble	Solid	300.0	6394

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1088-1
Project/Site: Elk Wallow 11 State #1 SDG: TE012921045

Client Sample ID: SW08 Lab Sample ID: 890-1088-1

Date Collected: 08/10/21 10:30 **Matrix: Solid**
Date Received: 08/10/21 13:08

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 12:09	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 14:50	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 18:23	AJ	XEN MID

Client Sample ID: SW10 Lab Sample ID: 890-1088-2

Date Collected: 08/10/21 10:36 **Matrix: Solid**
Date Received: 08/10/21 13:08

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 12:35	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 15:11	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 18:38	AJ	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1088-1
Project/Site: Elk Wallow 11 State #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	06-30-22

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

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

Method Summary

Client: WSP USA Inc. Job ID: 890-1088-1
Project/Site: Elk Wallow 11 State #1 SDG: TE012921045

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: 890-1088-1
SDG: TE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1088-1	SW08	Solid	08/10/21 10:30	08/10/21 13:08	0 - 10
890-1088-2	SW10	Solid	08/10/21 10:36	08/10/21 13:08	0 - 10

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Chain of Custody

XENCO LABORATORIES

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

Work Order No: _____

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

Work Order Comments

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

Project Name:	Elk Wallow 11 State # 1	Turn Around	
Project Number:	TE012921045	Routine ☐	
P.O. Number:		Rush: 24 HR	
Sampler's Name:	Elliot Lee	Due Date:	

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

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SW08	S	8/10/2021	10:30	0-10'	1	X	X	X	Composite
SW10	S	8/10/2021	10:36	0-10'	1	X	X	X	Composite

890-1088 Chain of Custody

Work Order Notes

Cost Center : 1598041001
Incident # NAPP2110461994

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

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8/10/21 1:08	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Received by OCD: 11/4/2021 2:30:53 PM

Released to Imaging: 2/8/2022 3:41:54 PM

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	IKe Tavarez
Company Name:	WSP USA	Company Name:	
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(817) 683-2503	Email:	Kalei.jennings@wsp.com

Work Order Comments

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

Project Name:	Bave D 21 Fed #1	Turn Around	
Project Number:	31402909.070	☐ Routine ☒ Rush	
Project Location:	Eddy county	Due Date:	24 hrs
Sampler's Name:	Fatima Smith	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Temperature Reading:	3.8	
Total Containers:		Corrected Temperature:	3.6	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code
SS01	S	07/29/21	1423	0-0.5		1	
SS02			1442				
SS03			1522				
SS04			1459				
SS05			1501				
SS06	↓	↓	1508	↓		↓	

ANALYSIS REQUEST

Parameters: TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0)

890-1087 Chain of Custody

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins 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 Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins 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	Fatima Smith	Anna Byers	8/10/2021 1000	2 Anna Byers	Ike Tavarez	8.10.21 1031
3				4		
5				6		

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Eurofins Xenco, Carlsbad
1089 N Canal St
Carlsbad, NM 88220
Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s)	COC No: 890-344 1
Client Contact: Shipping/Receiving	Phone	E-Mail: jessica kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana, NELAP - Texas		Job #: 890-1088-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 8/11/2021			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Elk Wallow 11 State #1	Project #: 89000004			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
		Preservation Code:									
SW08 (890-1088-1)	8/10/21	10 30 Mountain		Solid			X	X	X	1	
SW10 (890-1088-2)	8/10/21	10 36 Mountain		Solid			X	X	X	1	

Note Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II III, IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:
Relinquished by: Cloe Cuy 8.10.21	Date/Time	Company	Received by: JKramer Date/Time: 8.11.21 1102 Company
Relinquished by:	Date/Time	Company	Received by: Date/Time Company
Relinquished by:	Date/Time	Company	Received by Date/Time Company

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

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Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1088-1
SDG Number: TE012921045

Login Number: 1088
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: 890-1088-1
SDG Number: TE012921045

Login Number: 1088
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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1113-1
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: Dan Moir

JKramer

Authorized for release by:
8/23/2021 4:18:21 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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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: 890-1113-1
SDG: TEO12921045

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1113-1
Project/Site: Elk Wallow 11 State #1 SDG: TEO12921045

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*-	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.

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: 890-1113-1
SDG: TEO12921045

Job ID: 890-1113-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1113-1

REVISION

The report being provided is a revision of the original report sent on 8/17/2021. The report (revision 0) is being revised due to .

Receipt

The samples were received on 8/13/2021 3:15 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 7.0°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-6620 and analytical batch 880-6654 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

No 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: 890-1113-1
SDG: TEO12921045

Client Sample ID: SW11

Lab Sample ID: 890-1113-1
Matrix: Solid
Date Collected: 08/13/21 11:16
Date Received: 08/13/21 15:15
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U F1	0.00200		mg/Kg		08/16/21 15:45	08/17/21 13:50	1
Toluene	<0.00200	U F1	0.00200		mg/Kg		08/16/21 15:45	08/17/21 13:50	1
Ethylbenzene	<0.00200	U F2 F1	0.00200		mg/Kg		08/16/21 15:45	08/17/21 13:50	1
m-Xylene & p-Xylene	<0.00399	U F1	0.00399		mg/Kg		08/16/21 15:45	08/17/21 13:50	1
o-Xylene	<0.00200	U F1	0.00200		mg/Kg		08/16/21 15:45	08/17/21 13:50	1
Xylenes, Total	<0.00399	U F1	0.00399		mg/Kg		08/16/21 15:45	08/17/21 13:50	1
Total BTEX	<0.00399	U F2 F1	0.00399		mg/Kg		08/16/21 15:45	08/17/21 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*08/16/21 15:45*	*08/17/21 13:50*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*08/16/21 15:45*	*08/17/21 13:50*	*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 *- *1	49.8		mg/Kg		08/17/21 11:00	08/17/21 13:58	1
Diesel Range Organics (Over C10-C28)	<49.8	U *- *1	49.8		mg/Kg		08/17/21 11:00	08/17/21 13:58	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/17/21 11:00	08/17/21 13:58	1
Total TPH	<49.8	U	49.8		mg/Kg		08/17/21 11:00	08/17/21 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*08/17/21 11:00*	*08/17/21 13:58*	*1*
o-Terphenyl	*108*		*70 - 130*	*08/17/21 11:00*	*08/17/21 13:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**763**		4.95		mg/Kg			08/19/21 10:52	1

Client Sample ID: SW12

Lab Sample ID: 890-1113-2
Matrix: Solid
Date Collected: 08/13/21 12:45
Date Received: 08/13/21 15:15
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/16/21 15:45	08/17/21 14:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/16/21 15:45	08/17/21 14:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/16/21 15:45	08/17/21 14:10	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/16/21 15:45	08/17/21 14:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/16/21 15:45	08/17/21 14:10	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/16/21 15:45	08/17/21 14:10	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		08/16/21 15:45	08/17/21 14:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*08/16/21 15:45*	*08/17/21 14:10*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*08/16/21 15:45*	*08/17/21 14:10*	*1*

Client Sample Results

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

Job ID: 890-1113-1
SDG: TEO12921045

Client Sample ID: SW12

Date Collected: 08/13/21 12:45
Date Received: 08/13/21 15:15
Sample Depth: 0 - 10

Lab Sample ID: 890-1113-2

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	<50.0	U *- *1	50.0		mg/Kg		08/17/21 11:00	08/17/21 14:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U *- *1	50.0		mg/Kg		08/17/21 11:00	08/17/21 14:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/17/21 11:00	08/17/21 14:18	1
Total TPH	<50.0	U	50.0		mg/Kg		08/17/21 11:00	08/17/21 14:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*08/17/21 11:00*	*08/17/21 14:18*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/17/21 11:00*	*08/17/21 14:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**731**		4.96		mg/Kg			08/19/21 10:57	1

Surrogate Summary

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

Job ID: 890-1113-1
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)
890-1113-1	SW11	114	99
890-1113-1 MS	SW11	92	111
890-1113-1 MSD	SW11	99	108
890-1113-2	SW12	117	100
LCS 880-6620/1-A	Lab Control Sample	105	104
LCSD 880-6620/2-A	Lab Control Sample Dup	112	104
MB 880-6620/5-A	Method Blank	105	90

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)
890-1111-A-21-F MS	Matrix Spike	92	87
890-1111-A-21-G MSD	Matrix Spike Duplicate	94	90
890-1113-1	SW11	99	108
890-1113-2	SW12	92	99
LCS 880-6627/2-A	Lab Control Sample	82	97
LCSD 880-6627/3-A	Lab Control Sample Dup	108	106
MB 880-6627/1-A	Method Blank	114	126

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-1113-1
SDG: TEO12921045

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6620/5-A
Matrix: Solid
Analysis Batch: 6654

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6620

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/16/21 15:45	08/17/21 13:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/16/21 15:45	08/17/21 13:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/16/21 15:45	08/17/21 13:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/16/21 15:45	08/17/21 13:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/16/21 15:45	08/17/21 13:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/16/21 15:45	08/17/21 13:28	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/16/21 15:45	08/17/21 13:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*08/16/21 15:45*	*08/17/21 13:28*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/16/21 15:45*	*08/17/21 13:28*	*1*

Lab Sample ID: LCS 880-6620/1-A
Matrix: Solid
Analysis Batch: 6654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6620

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.08579		mg/Kg		86	70 - 130		
Toluene			0.100	0.08111		mg/Kg		81	70 - 130		
Ethylbenzene			0.100	0.08072		mg/Kg		81	70 - 130		
m-Xylene & p-Xylene			0.200	0.1621		mg/Kg		81	70 - 130		
o-Xylene			0.100	0.08067		mg/Kg		81	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-6620/2-A
Matrix: Solid
Analysis Batch: 6654

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6620

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.08823		mg/Kg		88	70 - 130	3	35
Toluene			0.100	0.08360		mg/Kg		84	70 - 130	3	35
Ethylbenzene			0.100	0.08701		mg/Kg		87	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1768		mg/Kg		88	70 - 130	9	35
o-Xylene			0.100	0.08862		mg/Kg		89	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-1113-1 MS
Matrix: Solid
Analysis Batch: 6654

Client Sample ID: SW11
Prep Type: Total/NA
Prep Batch: 6620

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00200	U F1	0.101	0.07272		mg/Kg		72	70 - 130		

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-1113-1
SDG: TEO12921045

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

Lab Sample ID: 890-1113-1 MS
Matrix: Solid
Analysis Batch: 6654

Client Sample ID: SW11
Prep Type: Total/NA
Prep Batch: 6620

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U F1	0.101	0.05143	F1	mg/Kg		51	70 - 130
Ethylbenzene	<0.00200	U F2 F1	0.101	0.03735	F1	mg/Kg		37	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.202	0.07162	F1	mg/Kg		35	70 - 130
o-Xylene	<0.00200	U F1	0.101	0.03662	F1	mg/Kg		36	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-1113-1 MSD
Matrix: Solid
Analysis Batch: 6654

Client Sample ID: SW11
Prep Type: Total/NA
Prep Batch: 6620

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.101	0.05267	F1	mg/Kg		52	70 - 130	32	35
Toluene	<0.00200	U F1	0.101	0.03841	F1	mg/Kg		38	70 - 130	29	35
Ethylbenzene	<0.00200	U F2 F1	0.101	0.02585	F2 F1	mg/Kg		26	70 - 130	36	35
m-Xylene & p-Xylene	<0.00399	U F1	0.202	0.05034	F1	mg/Kg		25	70 - 130	35	35
o-Xylene	<0.00200	U F1	0.101	0.02731	F1	mg/Kg		27	70 - 130	29	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

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

Lab Sample ID: MB 880-6627/1-A
Matrix: Solid
Analysis Batch: 6628

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6627

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 17:01	08/17/21 11:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/16/21 17:01	08/17/21 11:33	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/16/21 17:01	08/17/21 11:33	1
Total TPH	<50.0	U	50.0		mg/Kg		08/16/21 17:01	08/17/21 11:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*08/16/21 17:01*	*08/17/21 11:33*	*1*
o-Terphenyl	*126*		*70 - 130*	*08/16/21 17:01*	*08/17/21 11:33*	*1*

Lab Sample ID: LCS 880-6627/2-A
Matrix: Solid
Analysis Batch: 6628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6627

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			1000	654.9	*-	mg/Kg		65	70 - 130

QC Sample Results

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

Job ID: 890-1113-1
SDG: TEO12921045

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

Lab Sample ID: LCS 880-6627/2-A
Matrix: Solid
Analysis Batch: 6628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6627

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	588.3	*-	mg/Kg		59	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: LCSD 880-6627/3-A
Matrix: Solid
Analysis Batch: 6628

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6627

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1294	*1	mg/Kg		129	70 - 130	66	20
Diesel Range Organics (Over C10-C28)			1000	915.5	*1	mg/Kg		92	70 - 130	44	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: 890-1111-A-21-F MS
Matrix: Solid
Analysis Batch: 6628

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6627

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 *- *1	995	970.5		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)	182	*- *1	995	988.8		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Lab Sample ID: 890-1111-A-21-G MSD
Matrix: Solid
Analysis Batch: 6628

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 6627

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *- *1	998	995.1		mg/Kg		100	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	182	*- *1	998	1009		mg/Kg		83	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

QC Sample Results

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

Job ID: 890-1113-1
SDG: TEO12921045

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6679/1-A
Matrix: Solid
Analysis Batch: 6680

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			08/17/21 15:18	1

Lab Sample ID: LCS 880-6679/2-A
Matrix: Solid
Analysis Batch: 6680

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	253.9		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-6679/3-A
Matrix: Solid
Analysis Batch: 6680

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	255.0		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 890-1113-2 MS
Matrix: Solid
Analysis Batch: 6680

Client Sample ID: SW12
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	729	F1	250	935.7	F1	mg/Kg		83	90 - 110		

Lab Sample ID: 890-1113-2 MSD
Matrix: Solid
Analysis Batch: 6680

Client Sample ID: SW12
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	729	F1	250	935.5	F1	mg/Kg		83	90 - 110	0	20

Lab Sample ID: MB 880-6605/1-A
Matrix: Solid
Analysis Batch: 6765

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			08/19/21 08:32	1

Lab Sample ID: LCS 880-6605/2-A
Matrix: Solid
Analysis Batch: 6765

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	257.5		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-6605/3-A
Matrix: Solid
Analysis Batch: 6765

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	257.6		mg/Kg		103	90 - 110	0	20

QC Sample Results

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

Job ID: 890-1113-1
SDG: TEO12921045

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-1112-A-3-C MS
Matrix: Solid
Analysis Batch: 6765

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	36.6		249	308.1		mg/Kg		109	90 - 110		

Lab Sample ID: 890-1112-A-3-D MSD
Matrix: Solid
Analysis Batch: 6765

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	36.6		249	308.5		mg/Kg		109	90 - 110	0	20

QC Association Summary

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

Job ID: 890-1113-1
SDG: TEO12921045

GC VOA

Prep Batch: 6620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1113-1	SW11	Total/NA	Solid	5035	
890-1113-2	SW12	Total/NA	Solid	5035	
MB 880-6620/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6620/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6620/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1113-1 MS	SW11	Total/NA	Solid	5035	
890-1113-1 MSD	SW11	Total/NA	Solid	5035	

Analysis Batch: 6654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1113-1	SW11	Total/NA	Solid	8021B	6620
890-1113-2	SW12	Total/NA	Solid	8021B	6620
MB 880-6620/5-A	Method Blank	Total/NA	Solid	8021B	6620
LCS 880-6620/1-A	Lab Control Sample	Total/NA	Solid	8021B	6620
LCSD 880-6620/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6620
890-1113-1 MS	SW11	Total/NA	Solid	8021B	6620
890-1113-1 MSD	SW11	Total/NA	Solid	8021B	6620

GC Semi VOA

Prep Batch: 6627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1113-1	SW11	Total/NA	Solid	8015NM Prep	
890-1113-2	SW12	Total/NA	Solid	8015NM Prep	
MB 880-6627/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6627/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6627/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1111-A-21-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1111-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 6628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1113-1	SW11	Total/NA	Solid	8015B NM	6627
890-1113-2	SW12	Total/NA	Solid	8015B NM	6627
MB 880-6627/1-A	Method Blank	Total/NA	Solid	8015B NM	6627
LCS 880-6627/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6627
LCSD 880-6627/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6627
890-1111-A-21-F MS	Matrix Spike	Total/NA	Solid	8015B NM	6627
890-1111-A-21-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6627

HPLC/IC

Leach Batch: 6605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1113-1	SW11	Soluble	Solid	DI Leach	
890-1113-2	SW12	Soluble	Solid	DI Leach	
MB 880-6605/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6605/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6605/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1112-A-3-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1112-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

QC Association Summary

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

Job ID: 890-1113-1
SDG: TEO12921045

HPLC/IC

Leach Batch: 6679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6679/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6679/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6679/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1113-2 MS	SW12	Soluble	Solid	DI Leach	
890-1113-2 MSD	SW12	Soluble	Solid	DI Leach	

Analysis Batch: 6680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6679/1-A	Method Blank	Soluble	Solid	300.0	6679
LCS 880-6679/2-A	Lab Control Sample	Soluble	Solid	300.0	6679
LCSD 880-6679/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6679
890-1113-2 MS	SW12	Soluble	Solid	300.0	6679
890-1113-2 MSD	SW12	Soluble	Solid	300.0	6679

Analysis Batch: 6765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1113-1	SW11	Soluble	Solid	300.0	6605
890-1113-2	SW12	Soluble	Solid	300.0	6605
MB 880-6605/1-A	Method Blank	Soluble	Solid	300.0	6605
LCS 880-6605/2-A	Lab Control Sample	Soluble	Solid	300.0	6605
LCSD 880-6605/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6605
890-1112-A-3-C MS	Matrix Spike	Soluble	Solid	300.0	6605
890-1112-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6605

Lab Chronicle

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

Job ID: 890-1113-1
SDG: TEO12921045

Client Sample ID: SW11

Lab Sample ID: 890-1113-1
Matrix: Solid
Date Collected: 08/13/21 11:16
Date Received: 08/13/21 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6620	08/16/21 15:45	KL	XEN MID
Total/NA	Analysis	8021B		1	6654	08/17/21 13:50	KL	XEN MID
Total/NA	Prep	8015NM Prep			6627	08/17/21 11:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6628	08/17/21 13:58	AJ	XEN MID
Soluble	Leach	DI Leach			6605	08/16/21 11:22	CH	XEN MID
Soluble	Analysis	300.0		1	6765	08/19/21 10:52	CH	XEN MID

Client Sample ID: SW12

Lab Sample ID: 890-1113-2
Matrix: Solid
Date Collected: 08/13/21 12:45
Date Received: 08/13/21 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6620	08/16/21 15:45	KL	XEN MID
Total/NA	Analysis	8021B		1	6654	08/17/21 14:10	KL	XEN MID
Total/NA	Prep	8015NM Prep			6627	08/17/21 11:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6628	08/17/21 14:18	AJ	XEN MID
Soluble	Leach	DI Leach			6605	08/16/21 11:22	CH	XEN MID
Soluble	Analysis	300.0		1	6765	08/19/21 10:57	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1113-1
Project/Site: Elk Wallow 11 State #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: 890-1113-1
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: 890-1113-1
SDG: TEO12921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1113-1	SW11	Solid	08/13/21 11:16	08/13/21 15:15	0 - 10
890-1113-2	SW12	Solid	08/13/21 12:45	08/13/21 15:15	0 - 10

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Chain of Custody

Work Order No: _____

XENCO LABORATORIES

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

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

Work Order Comments

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

Project Name:	Elk Wallow 11 State # 1	Turn Around	
Project Number:	TE012921045	Routine ☐	
P.O. Number:		Rush: 24H	
Sampler's Name:	Elliot Lee	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	7.2/7.6	Thermometer ID	TWM-007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:		
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SW11	S	8/13/2021	11:16	0-10'	1	X	X	X	Composite
SW12	S	8/13/2021	12:45	0-10'	1	X	X	X	Composite

890-1113 Chain of Custody

Work Order Notes

Cost Center : 1598041001
Incident # NAPP2110461994

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

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

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			8.13.21 1505			
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Received by OCD: 11/4/2021 2:30:53 PM

Released to Imaging: 2/8/2022 3:41:54 PM

8/23/2021 (Rev. 1)

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1113-1
SDG Number: TEO12921045

Login Number: 1113
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: 890-1113-1
SDG Number: TEO12921045

Login Number: 1113
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland
List Creation: 08/16/21 03:52 PM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1149-1
Laboratory Sample Delivery Group: WSPTE012921045
Client Project/Site: Elk Wallow 11 State #1

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

Attn: Dan Moir

Authorized for release by:
8/26/2021 4:18:22 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

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

Laboratory Job ID: 890-1149-1
SDG: WSPTE012921045

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1149-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

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

Job ID: 890-1149-1
SDG: WSPTE012921045

Job ID: 890-1149-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1149-1

Receipt
The sample was received on 8/25/2021 8:04 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 4.0°C

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-5423-A-1-E MSD). Evidence of matrix interferences is not obvious.

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

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: 890-1149-1
SDG: WSPTE012921045

Client Sample ID: SW13

Date Collected: 08/23/21 11:00
Date Received: 08/25/21 08:04
Sample Depth: 0 - 10

Lab Sample ID: 890-1149-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/21 11:45	08/25/21 22:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/21 11:45	08/25/21 22:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/21 11:45	08/25/21 22:37	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/25/21 11:45	08/25/21 22:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/25/21 11:45	08/25/21 22:37	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/25/21 11:45	08/25/21 22:37	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		08/25/21 11:45	08/25/21 22:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*08/25/21 11:45*	*08/25/21 22:37*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*08/25/21 11:45*	*08/25/21 22:37*	*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		08/25/21 14:14	08/26/21 03:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/25/21 14:14	08/26/21 03:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/25/21 14:14	08/26/21 03:47	1
Total TPH	<49.9	U	49.9		mg/Kg		08/25/21 14:14	08/26/21 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*08/25/21 14:14*	*08/26/21 03:47*	*1*
o-Terphenyl	*92*		*70 - 130*	*08/25/21 14:14*	*08/26/21 03:47*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20.7**		4.95		mg/Kg			08/26/21 03:23	1

Surrogate Summary

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

Job ID: 890-1149-1
SDG: WSPTE012921045

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-5423-A-1-D MS	Matrix Spike	110	105										
880-5423-A-1-E MSD	Matrix Spike Duplicate	102	42 S1-										
890-1149-1	SW13	112	109										
LCS 880-7058/1-A	Lab Control Sample	98	98										
LCSD 880-7058/2-A	Lab Control Sample Dup	99	95										
MB 880-7058/5-A	Method Blank	122	108										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-1147-A-1-C MS	Matrix Spike	86	75										
890-1147-A-1-D MSD	Matrix Spike Duplicate	90	75										
890-1149-1	SW13	91	92										
LCS 880-7068/2-A	Lab Control Sample	96	88										
LCSD 880-7068/3-A	Lab Control Sample Dup	93	85										
MB 880-7068/1-A	Method Blank	103	99										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-1149-1
SDG: WSPTE012921045

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-7058/5-A
Matrix: Solid
Analysis Batch: 7060

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7058

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/21 11:45	08/25/21 14:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/21 11:45	08/25/21 14:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/21 11:45	08/25/21 14:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/25/21 11:45	08/25/21 14:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/25/21 11:45	08/25/21 14:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/25/21 11:45	08/25/21 14:52	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/25/21 11:45	08/25/21 14:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*08/25/21 11:45*	*08/25/21 14:52*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*08/25/21 11:45*	*08/25/21 14:52*	*1*

Lab Sample ID: LCS 880-7058/1-A
Matrix: Solid
Analysis Batch: 7060

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7058

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1071		mg/Kg		107	70 - 130		
Toluene			0.100	0.1054		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1051		mg/Kg		105	70 - 130		
m-Xylene & p-Xylene			0.200	0.1928		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09927		mg/Kg		99	70 - 130		

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

Lab Sample ID: LCSD 880-7058/2-A
Matrix: Solid
Analysis Batch: 7060

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7058

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1125		mg/Kg		113	70 - 130	5	35
Toluene			0.100	0.1129		mg/Kg		113	70 - 130	7	35
Ethylbenzene			0.100	0.1113		mg/Kg		111	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2022		mg/Kg		101	70 - 130	5	35
o-Xylene			0.100	0.1014		mg/Kg		101	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-5423-A-1-D MS
Matrix: Solid
Analysis Batch: 7060

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7058

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00200	U	0.0998	0.09135		mg/Kg		92	70 - 130		

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-1149-1
SDG: WSPTE012921045

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

Lab Sample ID: 880-5423-A-1-D MS
Matrix: Solid
Analysis Batch: 7060

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7058

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.0998	0.08347		mg/Kg		84	70 - 130
Ethylbenzene	<0.00200	U	0.0998	0.08350		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1553		mg/Kg		78	70 - 130
o-Xylene	<0.00200	U	0.0998	0.07783		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-5423-A-1-E MSD
Matrix: Solid
Analysis Batch: 7060

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 7058

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	0.1007		mg/Kg		101	70 - 130	10	35
Toluene	<0.00200	U	0.0994	0.09545		mg/Kg		96	70 - 130	13	35
Ethylbenzene	<0.00200	U	0.0994	0.09085		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1649		mg/Kg		83	70 - 130	6	35
o-Xylene	<0.00200	U	0.0994	0.08230		mg/Kg		82	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*42*	*S1-*	*70 - 130*

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

Lab Sample ID: MB 880-7068/1-A
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7068

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		08/25/21 14:14	08/25/21 21:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/25/21 21:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/25/21 21:10	1
Total TPH	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/25/21 21:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*08/25/21 14:14*	*08/25/21 21:10*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/25/21 14:14*	*08/25/21 21:10*	*1*

Lab Sample ID: LCS 880-7068/2-A
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7068

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			1000	866.7		mg/Kg		87	70 - 130

QC Sample Results

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

Job ID: 890-1149-1
SDG: WSPTE012921045

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

Lab Sample ID: LCS 880-7068/2-A
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7068

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	947.8		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*96*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

Lab Sample ID: LCSD 880-7068/3-A
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7068

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	879.6		mg/Kg		88	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	926.2		mg/Kg		93	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

Lab Sample ID: 890-1147-A-1-C MS
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7068

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	872.7		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	857.9		mg/Kg		86	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*75*		*70 - 130*

Lab Sample ID: 890-1147-A-1-D MSD
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 7068

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	956.6		mg/Kg		96	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	884.1		mg/Kg		89	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*75*		*70 - 130*

QC Sample Results

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

Job ID: 890-1149-1
SDG: WSPTE012921045

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-7054/1-A
Matrix: Solid
Analysis Batch: 7085

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			08/26/21 00:35	1

Lab Sample ID: LCS 880-7054/2-A
Matrix: Solid
Analysis Batch: 7085

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	269.1		mg/Kg		108	90 - 110		

Lab Sample ID: LCSD 880-7054/3-A
Matrix: Solid
Analysis Batch: 7085

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	269.3		mg/Kg		108	90 - 110	0	20

Lab Sample ID: 890-1148-A-22-B MS
Matrix: Solid
Analysis Batch: 7085

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	883		253	1146		mg/Kg		104	90 - 110		

Lab Sample ID: 890-1148-A-22-C MSD
Matrix: Solid
Analysis Batch: 7085

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	883		253	1148		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1149-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

GC VOA

Prep Batch: 7058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1149-1	SW13	Total/NA	Solid	5035	
MB 880-7058/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7058/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7058/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5423-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-5423-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 7060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1149-1	SW13	Total/NA	Solid	8021B	7058
MB 880-7058/5-A	Method Blank	Total/NA	Solid	8021B	7058
LCS 880-7058/1-A	Lab Control Sample	Total/NA	Solid	8021B	7058
LCSD 880-7058/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7058
880-5423-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	7058
880-5423-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	7058

GC Semi VOA

Analysis Batch: 7036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1149-1	SW13	Total/NA	Solid	8015B NM	7068
MB 880-7068/1-A	Method Blank	Total/NA	Solid	8015B NM	7068
LCS 880-7068/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	7068
LCSD 880-7068/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	7068
890-1147-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	7068
890-1147-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	7068

Prep Batch: 7068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1149-1	SW13	Total/NA	Solid	8015NM Prep	
MB 880-7068/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-7068/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-7068/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1147-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1147-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 7054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1149-1	SW13	Soluble	Solid	DI Leach	
MB 880-7054/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-7054/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7054/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1148-A-22-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1148-A-22-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 7085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1149-1	SW13	Soluble	Solid	300.0	7054
MB 880-7054/1-A	Method Blank	Soluble	Solid	300.0	7054
LCS 880-7054/2-A	Lab Control Sample	Soluble	Solid	300.0	7054

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1149-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

HPLC/IC (Continued)

Analysis Batch: 7085 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-7054/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7054
890-1148-A-22-B MS	Matrix Spike	Soluble	Solid	300.0	7054
890-1148-A-22-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	7054

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1149-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

Client Sample ID: SW13 Lab Sample ID: 890-1149-1

Date Collected: 08/23/21 11:00 **Matrix: Solid**
Date Received: 08/25/21 08:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7058	08/25/21 11:45	MR	XEN MID
Total/NA	Analysis	8021B		1	7060	08/25/21 22:37	KL	XEN MID
Total/NA	Prep	8015NM Prep			7068	08/25/21 14:14	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7036	08/26/21 03:47	AJ	XEN MID
Soluble	Leach	DI Leach			7054	08/25/21 10:13	CH	XEN MID
Soluble	Analysis	300.0		1	7085	08/26/21 03:23	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1149-1
Project/Site: Elk Wallow 11 State #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. Job ID: 890-1149-1
Project/Site: Elk Wallow 11 State #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

Sample Summary

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

Job ID: 890-1149-1
SDG: WSPTE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1149-1	SW13	Solid	08/23/21 11:00	08/25/21 08:04	0 - 10

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Chain of Custody

XENCO LABORATORIES

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

Work Order No: _____

www.xenco.com Page ___ of ___

8/26/2021

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
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

Work Order Comments

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

Project Name:	Elk Wallow 11 State #1	Turn Around	
Project Number:	WSPTE012921045	Routine	☐
P.O. Number:	4/1/2021	Rush: 24hr	
Sampler's Name:	Alexis Castro	Due Date:8-25-21	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	4.2 / 4.0	Thermometer ID		
Received Intact:	(Yes) No	T-NM-007		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Total Containers:	1	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SW13	S	8/23/2021	1100	0-10	1	x	x	x	composite

890-1149 Chain of Custody

Work Order Notes

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

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

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Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Alexis Castro	N. Allen	8/25/21 8:00			
3	J Bennett			4		
5				6		

Revised Date 051418 Rev 2018 1

Received by OCD: 11/4/2021 2:30:53 PM

Released to Imaging: 2/8/2022 3:41:54 PM

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-367 1
Client Contact: Shipping/Receiving	Phone	E-Mail: jessica.kramer@eurofinset com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana NELAP - Texas		Job #: 890-1149-1
Address: 1211 W Florida Ave,	Due Date Requested: 8/26/2021			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Elk Wallow 11 State #1	Project #: 89000004			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8016MOD_NM/8016NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note
			Preservation Code:								
SW13 (890-1149-1)	8/23/21	11 00 Mountain		Solid			X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	8-25-21			Kramer	8.25.21	
2						
3						

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 2.3/2.8

Ver: 06/08/2021

8/26/2021
Received by OCD: 11/4/2021 2:30:53 PM
Released to Imaging: 2/8/2022 3:41:54 PM

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1149-1
SDG Number: WSPTE012921045

Login Number: 1149
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: 890-1149-1
SDG Number: WSPTE012921045

Login Number: 1149
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland
List Creation: 08/25/21 01:37 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	2.3/2.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1154-1
Laboratory Sample Delivery Group: WSPTE012921045
Client Project/Site: Elk Wallow 11 State #1

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

Attn: Dan Moir

JKramer

Authorized for release by:
8/30/2021 8:48:20 AM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1154-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

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
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: 890-1154-1
SDG: WSPTE012921045

Job ID: 890-1154-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1154-1

Receipt
The samples were received on 8/25/2021 8:03 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°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. Job ID: 890-1154-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

Client Sample ID: FS06 — Lab Sample ID: 890-1154-1

Date Collected: 08/23/21 09:50 **Matrix: Solid**
Date Received: 08/25/21 08:03
Sample Depth: 12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/21 16:44	08/26/21 12:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/21 16:44	08/26/21 12:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/21 16:44	08/26/21 12:13	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/25/21 16:44	08/26/21 12:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/25/21 16:44	08/26/21 12:13	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/25/21 16:44	08/26/21 12:13	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		08/25/21 16:44	08/26/21 12:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*146*	*S1+*	*70 - 130*	*08/25/21 16:44*	*08/26/21 12:13*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*08/25/21 16:44*	*08/26/21 12:13*	*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		08/25/21 14:14	08/26/21 04:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/26/21 04:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/26/21 04:49	1
Total TPH	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/26/21 04:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*08/25/21 14:14*	*08/26/21 04:49*	*1*
o-Terphenyl	*96*		*70 - 130*	*08/25/21 14:14*	*08/26/21 04:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**401**		4.98		mg/Kg			08/27/21 19:29	1

Client Sample ID: SW14 — Lab Sample ID: 890-1154-2

Date Collected: 08/23/21 13:50 **Matrix: Solid**
Date Received: 08/25/21 08:03
Sample Depth: 0 - 10

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/25/21 16:44	08/26/21 12:34	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/25/21 16:44	08/26/21 12:34	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/25/21 16:44	08/26/21 12:34	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/25/21 16:44	08/26/21 12:34	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/25/21 16:44	08/26/21 12:34	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/25/21 16:44	08/26/21 12:34	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		08/25/21 16:44	08/26/21 12:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*08/25/21 16:44*	*08/26/21 12:34*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*08/25/21 16:44*	*08/26/21 12:34*	*1*

Client Sample Results

Client: WSP USA Inc. Job ID: 890-1154-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

Client Sample ID: SW14 Lab Sample ID: 890-1154-2

Date Collected: 08/23/21 13:50 **Matrix: Solid**
Date Received: 08/25/21 08:03
Sample Depth: 0 - 10

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		08/25/21 14:14	08/26/21 05:10	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/25/21 14:14	08/26/21 05:10	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/25/21 14:14	08/26/21 05:10	1
Total TPH	<49.8	U	49.8		mg/Kg		08/25/21 14:14	08/26/21 05:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*08/25/21 14:14*	*08/26/21 05:10*	*1*
o-Terphenyl	*93*		*70 - 130*	*08/25/21 14:14*	*08/26/21 05:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**204**		5.00		mg/Kg			08/27/21 19:34	1

Client Sample ID: FS07 Lab Sample ID: 890-1154-3

Date Collected: 08/23/21 14:00 **Matrix: Solid**
Date Received: 08/25/21 08:03
Sample Depth: 12

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/25/21 16:44	08/26/21 12:54	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/25/21 16:44	08/26/21 12:54	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/25/21 16:44	08/26/21 12:54	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/25/21 16:44	08/26/21 12:54	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/25/21 16:44	08/26/21 12:54	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/25/21 16:44	08/26/21 12:54	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		08/25/21 16:44	08/26/21 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*08/25/21 16:44*	*08/26/21 12:54*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*08/25/21 16:44*	*08/26/21 12:54*	*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	50.0		mg/Kg		08/25/21 14:14	08/26/21 05:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/26/21 05:31	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/26/21 05:31	1
Total TPH	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/26/21 05:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*08/25/21 14:14*	*08/26/21 05:31*	*1*
o-Terphenyl	*93*		*70 - 130*	*08/25/21 14:14*	*08/26/21 05:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**527**		50.0		mg/Kg			08/27/21 19:40	10

Surrogate Summary

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

Job ID: 890-1154-1
SDG: WSPTE012921045

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)									
		BFB1	DFBZ1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
890-1154-1	FS06	146 S1+	103								
890-1154-1 MS	FS06	115	106								
890-1154-1 MSD	FS06	113	107								
890-1154-2	SW14	126	101								
890-1154-3	FS07	119	99								
LCS 880-7083/1-A	Lab Control Sample	119	95								
LCSD 880-7083/2-A	Lab Control Sample Dup	111	104								
MB 880-7083/5-A	Method Blank	109	98								

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
890-1147-A-1-C MS	Matrix Spike	86	75								
890-1147-A-1-D MSD	Matrix Spike Duplicate	90	75								
890-1154-1	FS06	101	96								
890-1154-2	SW14	99	93								
890-1154-3	FS07	98	93								
LCS 880-7068/2-A	Lab Control Sample	96	88								
LCSD 880-7068/3-A	Lab Control Sample Dup	93	85								
MB 880-7068/1-A	Method Blank	103	99								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-1154-1
SDG: WSPTE012921045

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-7083/5-A
Matrix: Solid
Analysis Batch: 7093

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7083

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/25/21 16:44	08/26/21 11:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/25/21 16:44	08/26/21 11:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/25/21 16:44	08/26/21 11:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/25/21 16:44	08/26/21 11:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/25/21 16:44	08/26/21 11:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/25/21 16:44	08/26/21 11:52	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/25/21 16:44	08/26/21 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*08/25/21 16:44*	*08/26/21 11:52*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/25/21 16:44*	*08/26/21 11:52*	*1*

Lab Sample ID: LCS 880-7083/1-A
Matrix: Solid
Analysis Batch: 7093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7083

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1010		mg/Kg		101	70 - 130		
Toluene			0.100	0.1027		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.1059		mg/Kg		106	70 - 130		
m-Xylene & p-Xylene			0.200	0.2208		mg/Kg		110	70 - 130		
o-Xylene			0.100	0.1007		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-7083/2-A
Matrix: Solid
Analysis Batch: 7093

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7083

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.08601		mg/Kg		86	70 - 130	16	35
Toluene			0.100	0.08076		mg/Kg		81	70 - 130	24	35
Ethylbenzene			0.100	0.07986		mg/Kg		80	70 - 130	28	35
m-Xylene & p-Xylene			0.200	0.1668		mg/Kg		83	70 - 130	28	35
o-Xylene			0.100	0.08252		mg/Kg		83	70 - 130	20	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-1154-1 MS
Matrix: Solid
Analysis Batch: 7093

Client Sample ID: FS06
Prep Type: Total/NA
Prep Batch: 7083

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00200	U	0.0998	0.08819		mg/Kg		88	70 - 130		

QC Sample Results

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

Job ID: 890-1154-1
SDG: WSPTE012921045

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

Lab Sample ID: 890-1154-1 MS
Matrix: Solid
Analysis Batch: 7093

Client Sample ID: FS06
Prep Type: Total/NA
Prep Batch: 7083

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.0998	0.08412		mg/Kg		84	70 - 130
Ethylbenzene	<0.00200	U	0.0998	0.08191		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1718		mg/Kg		86	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08545		mg/Kg		86	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-1154-1 MSD
Matrix: Solid
Analysis Batch: 7093

Client Sample ID: FS06
Prep Type: Total/NA
Prep Batch: 7083

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.101	0.09075		mg/Kg		90	70 - 130	3	35
Toluene	<0.00200	U	0.101	0.08506		mg/Kg		84	70 - 130	1	35
Ethylbenzene	<0.00200	U	0.101	0.08285		mg/Kg		82	70 - 130	1	35
m-Xylene & p-Xylene	<0.00399	U	0.202	0.1725		mg/Kg		86	70 - 130	0	35
o-Xylene	<0.00200	U	0.101	0.08542		mg/Kg		85	70 - 130	0	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

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

Lab Sample ID: MB 880-7068/1-A
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7068

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		08/25/21 14:14	08/25/21 21:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/25/21 21:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/25/21 21:10	1
Total TPH	<50.0	U	50.0		mg/Kg		08/25/21 14:14	08/25/21 21:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*08/25/21 14:14*	*08/25/21 21:10*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/25/21 14:14*	*08/25/21 21:10*	*1*

Lab Sample ID: LCS 880-7068/2-A
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7068

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			1000	866.7		mg/Kg		87	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-1154-1
SDG: WSPTE012921045

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

Lab Sample ID: LCS 880-7068/2-A
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7068

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	947.8		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*96*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

Lab Sample ID: LCSD 880-7068/3-A
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7068

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	879.6		mg/Kg		88	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	926.2		mg/Kg		93	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

Lab Sample ID: 890-1147-A-1-C MS
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7068

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	872.7		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	857.9		mg/Kg		86	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*75*		*70 - 130*

Lab Sample ID: 890-1147-A-1-D MSD
Matrix: Solid
Analysis Batch: 7036

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 7068

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	956.6		mg/Kg		96	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	884.1		mg/Kg		89	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*75*		*70 - 130*

QC Sample Results

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

Job ID: 890-1154-1
SDG: WSPTE012921045

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-7089/1-A
Matrix: Solid
Analysis Batch: 7168

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			08/27/21 16:52	1

Lab Sample ID: LCS 880-7089/2-A
Matrix: Solid
Analysis Batch: 7168

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	272.5		mg/Kg		109	90 - 110		

Lab Sample ID: LCSD 880-7089/3-A
Matrix: Solid
Analysis Batch: 7168

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	272.5		mg/Kg		109	90 - 110	0	20

Lab Sample ID: 890-1150-A-16-D MS
Matrix: Solid
Analysis Batch: 7168

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	362		248	606.3		mg/Kg		98	90 - 110		

Lab Sample ID: 890-1150-A-16-E MSD
Matrix: Solid
Analysis Batch: 7168

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	362		248	606.6		mg/Kg		99	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1154-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

GC VOA

Prep Batch: 7083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1154-1	FS06	Total/NA	Solid	5035	
890-1154-2	SW14	Total/NA	Solid	5035	
890-1154-3	FS07	Total/NA	Solid	5035	
MB 880-7083/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7083/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7083/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1154-1 MS	FS06	Total/NA	Solid	5035	
890-1154-1 MSD	FS06	Total/NA	Solid	5035	

Analysis Batch: 7093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1154-1	FS06	Total/NA	Solid	8021B	7083
890-1154-2	SW14	Total/NA	Solid	8021B	7083
890-1154-3	FS07	Total/NA	Solid	8021B	7083
MB 880-7083/5-A	Method Blank	Total/NA	Solid	8021B	7083
LCS 880-7083/1-A	Lab Control Sample	Total/NA	Solid	8021B	7083
LCSD 880-7083/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7083
890-1154-1 MS	FS06	Total/NA	Solid	8021B	7083
890-1154-1 MSD	FS06	Total/NA	Solid	8021B	7083

GC Semi VOA

Analysis Batch: 7036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1154-1	FS06	Total/NA	Solid	8015B NM	7068
890-1154-2	SW14	Total/NA	Solid	8015B NM	7068
890-1154-3	FS07	Total/NA	Solid	8015B NM	7068
MB 880-7068/1-A	Method Blank	Total/NA	Solid	8015B NM	7068
LCS 880-7068/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	7068
LCSD 880-7068/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	7068
890-1147-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	7068
890-1147-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	7068

Prep Batch: 7068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1154-1	FS06	Total/NA	Solid	8015NM Prep	
890-1154-2	SW14	Total/NA	Solid	8015NM Prep	
890-1154-3	FS07	Total/NA	Solid	8015NM Prep	
MB 880-7068/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-7068/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-7068/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1147-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1147-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 7089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1154-1	FS06	Soluble	Solid	DI Leach	
890-1154-2	SW14	Soluble	Solid	DI Leach	
890-1154-3	FS07	Soluble	Solid	DI Leach	
MB 880-7089/1-A	Method Blank	Soluble	Solid	DI Leach	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1154-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

HPLC/IC (Continued)

Leach Batch: 7089 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-7089/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7089/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1150-A-16-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1150-A-16-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 7168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1154-1	FS06	Soluble	Solid	300.0	7089
890-1154-2	SW14	Soluble	Solid	300.0	7089
890-1154-3	FS07	Soluble	Solid	300.0	7089
MB 880-7089/1-A	Method Blank	Soluble	Solid	300.0	7089
LCS 880-7089/2-A	Lab Control Sample	Soluble	Solid	300.0	7089
LCSD 880-7089/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7089
890-1150-A-16-D MS	Matrix Spike	Soluble	Solid	300.0	7089
890-1150-A-16-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	7089

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1154-1
Project/Site: Elk Wallow 11 State #1 SDG: WSPTE012921045

Client Sample ID: FS06 Lab Sample ID: 890-1154-1

Date Collected: 08/23/21 09:50 **Matrix: Solid**
Date Received: 08/25/21 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7083	08/25/21 16:44	MR	XEN MID
Total/NA	Analysis	8021B		1	7093	08/26/21 12:13	MR	XEN MID
Total/NA	Prep	8015NM Prep			7068	08/25/21 14:14	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7036	08/26/21 04:49	AJ	XEN MID
Soluble	Leach	DI Leach			7089	08/25/21 18:14	SC	XEN MID
Soluble	Analysis	300.0		1	7168	08/27/21 19:29	SC	XEN MID

Client Sample ID: SW14 Lab Sample ID: 890-1154-2

Date Collected: 08/23/21 13:50 **Matrix: Solid**
Date Received: 08/25/21 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7083	08/25/21 16:44	MR	XEN MID
Total/NA	Analysis	8021B		1	7093	08/26/21 12:34	MR	XEN MID
Total/NA	Prep	8015NM Prep			7068	08/25/21 14:14	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7036	08/26/21 05:10	AJ	XEN MID
Soluble	Leach	DI Leach			7089	08/25/21 18:14	SC	XEN MID
Soluble	Analysis	300.0		1	7168	08/27/21 19:34	SC	XEN MID

Client Sample ID: FS07 Lab Sample ID: 890-1154-3

Date Collected: 08/23/21 14:00 **Matrix: Solid**
Date Received: 08/25/21 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7083	08/25/21 16:44	MR	XEN MID
Total/NA	Analysis	8021B		1	7093	08/26/21 12:54	MR	XEN MID
Total/NA	Prep	8015NM Prep			7068	08/25/21 14:14	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7036	08/26/21 05:31	AJ	XEN MID
Soluble	Leach	DI Leach			7089	08/25/21 18:14	SC	XEN MID
Soluble	Analysis	300.0		10	7168	08/27/21 19:40	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1154-1
Project/Site: Elk Wallow 11 State #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. Job ID: 890-1154-1
Project/Site: Elk Wallow 11 State #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

Sample Summary

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

Job ID: 890-1154-1
SDG: WSPTE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1154-1	FS06	Solid	08/23/21 09:50	08/25/21 08:03	12
890-1154-2	SW14	Solid	08/23/21 13:50	08/25/21 08:03	0 - 10
890-1154-3	FS07	Solid	08/23/21 14:00	08/25/21 08:03	12

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Chain of Custody

XENCO LABORATORIES

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

Work Order No: _____

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8/30/2021

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
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

Work Order Comments

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

Project Name:	Elk Wallow 11 State #1	Turn Around	
Project Number:	WSPTE012921045	Routine	☑
P.O. Number:	4/1/2021	Rush:	
Sampler's Name:	Alexis Castro	Due Date	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	4.2 / 4.0	Thermometer ID		
Received Intact:	(Yes) No	T-NM-007		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Total Containers:	3	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
FS06	S	8/23/2021	0950	12	1	x	x	x	composite
SW14	S	8/23/2021	1350	0-10	1	x	x	x	composite
FS07	S	8/23/2021	1400	12	1	x	x	x	composite

890-1154 Chain of Custody

Work Order Notes

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

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

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Alexis Castro	N. Otte	8/25/21 8:03	2		
3	Jennifer			4		
5				6		

Revised Date 051418 Rev 2018 1

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Received by OCD: 11/4/2021 2:30:53 PM

Released to Imaging: 2/8/2022 3:41:54 PM

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-367 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana NELAP - Texas		Job #: 890-1154-1
Address: 1211 W Florida Ave	Due Date Requested: 8/31/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Elk Wallow 11 State #1	Project #: 89000004			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
FS06 (890-1154-1)	8/23/21	09 50 Mountain		Solid			X	X	X	1	
SW14 (890-1154-2)	8/23/21	13 50 Mountain		Solid			X	X	X	1	
FS07 (890-1154-3)	8/23/21	14 00 Mountain		Solid			X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
2	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
3	Custody Seals Intact: Δ Yes Δ No	Custody Seal No:		Cooler Temperature(s) °C and Other Remarks: 2.3/2.8		

Ver: 06/08/2021

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Received by OCD: 11/4/2021 2:30:53 PM
8/30/2021
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Released to Imaging: 2/8/2022 3:41:54 PM

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1154-1
SDG Number: WSPTE012921045

Login Number: 1154
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: 890-1154-1
SDG Number: WSPTE012921045

Login Number: 1154
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland
List Creation: 08/25/21 01:37 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	2.3/2.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1211-1
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

JKramer

Authorized for release by:
9/3/2021 6:28:07 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

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

Laboratory Job ID: 890-1211-1
SDG: TE012921045

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1211-1
Project/Site: Elk Wallow 11 State #1 SDG: TE012921045

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

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

Job ID: 890-1211-1
SDG: TE012921045

Job ID: 890-1211-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1211-1

Receipt
The sample was received on 9/2/2021 12:58 PM. 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 12.2°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-7477 and analytical batch 880-7486 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
No 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: 890-1211-1
SDG: TE012921045

Client Sample ID: FS05

Date Collected: 09/02/21 09:50
Date Received: 09/02/21 12:58
Sample Depth: 12

Lab Sample ID: 890-1211-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U F1	0.00201		mg/Kg		09/03/21 09:33	09/03/21 13:13	1
Toluene	<0.00201	U F1	0.00201		mg/Kg		09/03/21 09:33	09/03/21 13:13	1
Ethylbenzene	<0.00201	U F1	0.00201		mg/Kg		09/03/21 09:33	09/03/21 13:13	1
m-Xylene & p-Xylene	<0.00402	U F1	0.00402		mg/Kg		09/03/21 09:33	09/03/21 13:13	1
o-Xylene	<0.00201	U F1	0.00201		mg/Kg		09/03/21 09:33	09/03/21 13:13	1
Xylenes, Total	<0.00402	U F1	0.00402		mg/Kg		09/03/21 09:33	09/03/21 13:13	1
Total BTEX	<0.00402	U F1	0.00402		mg/Kg		09/03/21 09:33	09/03/21 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/03/21 09:33*	*09/03/21 13:13*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*09/03/21 09:33*	*09/03/21 13:13*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/03/21 11:10	09/03/21 12:19	1
Diesel Range Organics (Over C10-C28)	**50.7**		50.0		mg/Kg		09/03/21 11:10	09/03/21 12:19	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/03/21 11:10	09/03/21 12:19	1
Total TPH	**50.7**		50.0		mg/Kg		09/03/21 11:10	09/03/21 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*09/03/21 11:10*	*09/03/21 12:19*	*1*
o-Terphenyl	*109*		*70 - 130*	*09/03/21 11:10*	*09/03/21 12:19*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**327**		5.05		mg/Kg			09/03/21 16:46	1

Surrogate Summary

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

Job ID: 890-1211-1
SDG: TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-1211-1	FS05	113	104
890-1211-1 MS	FS05	101	108
890-1211-1 MSD	FS05	111	109
LCS 880-7477/1-A	Lab Control Sample	111	93
LCSD 880-7477/2-A	Lab Control Sample Dup	111	106
MB 880-7477/5-A	Method Blank	102	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-1211-1	FS05	100	109
890-1211-1 MS	FS05	101	99
890-1211-1 MSD	FS05	103	100
LCS 880-7495/2-A	Lab Control Sample	121	121
LCSD 880-7495/3-A	Lab Control Sample Dup	121	119
MB 880-7495/1-A	Method Blank	105	117

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-1211-1
SDG: TE012921045

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-7477/5-A
Matrix: Solid
Analysis Batch: 7486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7477

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/03/21 09:33	09/03/21 12:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/03/21 09:33	09/03/21 12:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/03/21 09:33	09/03/21 12:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/03/21 09:33	09/03/21 12:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/03/21 09:33	09/03/21 12:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/03/21 09:33	09/03/21 12:52	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/03/21 09:33	09/03/21 12:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*09/03/21 09:33*	*09/03/21 12:52*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*09/03/21 09:33*	*09/03/21 12:52*	*1*

Lab Sample ID: LCS 880-7477/1-A
Matrix: Solid
Analysis Batch: 7486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7477

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.07447		mg/Kg		74	70 - 130		
Toluene			0.100	0.07554		mg/Kg		76	70 - 130		
Ethylbenzene			0.100	0.07775		mg/Kg		78	70 - 130		
m-Xylene & p-Xylene			0.200	0.1583		mg/Kg		79	70 - 130		
o-Xylene			0.100	0.08045		mg/Kg		80	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-7477/2-A
Matrix: Solid
Analysis Batch: 7486

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7477

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.08330		mg/Kg		83	70 - 130	11	35
Toluene			0.100	0.08122		mg/Kg		81	70 - 130	7	35
Ethylbenzene			0.100	0.08397		mg/Kg		84	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1705		mg/Kg		85	70 - 130	7	35
o-Xylene			0.100	0.08705		mg/Kg		87	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-1211-1 MS
Matrix: Solid
Analysis Batch: 7486

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 7477

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00201	U F1	0.100	0.04711	F1	mg/Kg		47	70 - 130		

QC Sample Results

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

Job ID: 890-1211-1
SDG: TE012921045

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

Lab Sample ID: 890-1211-1 MS
Matrix: Solid
Analysis Batch: 7486

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 7477

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00201	U F1	0.100	0.03113	F1	mg/Kg		31	70 - 130
Ethylbenzene	<0.00201	U F1	0.100	0.02073	F1	mg/Kg		21	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.04030	F1	mg/Kg		20	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.02125	F1	mg/Kg		21	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 890-1211-1 MSD
Matrix: Solid
Analysis Batch: 7486

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 7477

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.101	0.04123	F1	mg/Kg		41	70 - 130	13	35
Toluene	<0.00201	U F1	0.101	0.03176	F1	mg/Kg		31	70 - 130	2	35
Ethylbenzene	<0.00201	U F1	0.101	0.01699	F1	mg/Kg		17	70 - 130	20	35
m-Xylene & p-Xylene	<0.00402	U F1	0.202	0.03229	F1	mg/Kg		16	70 - 130	22	35
o-Xylene	<0.00201	U F1	0.101	0.01492	F1	mg/Kg		15	70 - 130	35	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

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

Lab Sample ID: MB 880-7495/1-A
Matrix: Solid
Analysis Batch: 7482

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7495

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/03/21 11:10	09/03/21 11:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/03/21 11:10	09/03/21 11:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/03/21 11:10	09/03/21 11:16	1
Total TPH	<50.0	U	50.0	mg/Kg		09/03/21 11:10	09/03/21 11:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*09/03/21 11:10*	*09/03/21 11:16*	*1*
o-Terphenyl	*117*		*70 - 130*	*09/03/21 11:10*	*09/03/21 11:16*	*1*

Lab Sample ID: LCS 880-7495/2-A
Matrix: Solid
Analysis Batch: 7482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7495

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1025		mg/Kg		102	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-1211-1
SDG: TE012921045

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

Lab Sample ID: LCS 880-7495/2-A
Matrix: Solid
Analysis Batch: 7482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7495

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	1002		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*121*		*70 - 130*
o-Terphenyl	*121*		*70 - 130*

Lab Sample ID: LCSD 880-7495/3-A
Matrix: Solid
Analysis Batch: 7482

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7495

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1020		mg/Kg		102	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	977.2		mg/Kg		98	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*121*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Lab Sample ID: 890-1211-1 MS
Matrix: Solid
Analysis Batch: 7482

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 7495

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	940.1		mg/Kg		93	70 - 130		
Diesel Range Organics (Over C10-C28)	50.7		995	924.2		mg/Kg		88	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: 890-1211-1 MSD
Matrix: Solid
Analysis Batch: 7482

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 7495

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	974.1		mg/Kg		96	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	50.7		998	948.3		mg/Kg		90	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*103*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

QC Sample Results

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

Job ID: 890-1211-1
SDG: TE012921045

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-7498/1-A
Matrix: Solid
Analysis Batch: 7500

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			09/03/21 16:29	1

Lab Sample ID: LCS 880-7498/2-A
Matrix: Solid
Analysis Batch: 7500

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	249.9		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-7498/3-A
Matrix: Solid
Analysis Batch: 7500

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	250.7		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-1211-1 MS
Matrix: Solid
Analysis Batch: 7500

Client Sample ID: FS05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	327		253	568.1		mg/Kg		95	90 - 110		

Lab Sample ID: 890-1211-1 MSD
Matrix: Solid
Analysis Batch: 7500

Client Sample ID: FS05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	327		253	568.8		mg/Kg		96	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1211-1
Project/Site: Elk Wallow 11 State #1 SDG: TE012921045

GC VOA

Prep Batch: 7477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1211-1	FS05	Total/NA	Solid	5035	
MB 880-7477/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7477/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7477/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1211-1 MS	FS05	Total/NA	Solid	5035	
890-1211-1 MSD	FS05	Total/NA	Solid	5035	

Analysis Batch: 7486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1211-1	FS05	Total/NA	Solid	8021B	7477
MB 880-7477/5-A	Method Blank	Total/NA	Solid	8021B	7477
LCS 880-7477/1-A	Lab Control Sample	Total/NA	Solid	8021B	7477
LCSD 880-7477/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7477
890-1211-1 MS	FS05	Total/NA	Solid	8021B	7477
890-1211-1 MSD	FS05	Total/NA	Solid	8021B	7477

GC Semi VOA

Analysis Batch: 7482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1211-1	FS05	Total/NA	Solid	8015B NM	7495
MB 880-7495/1-A	Method Blank	Total/NA	Solid	8015B NM	7495
LCS 880-7495/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	7495
LCSD 880-7495/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	7495
890-1211-1 MS	FS05	Total/NA	Solid	8015B NM	7495
890-1211-1 MSD	FS05	Total/NA	Solid	8015B NM	7495

Prep Batch: 7495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1211-1	FS05	Total/NA	Solid	8015NM Prep	
MB 880-7495/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-7495/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-7495/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1211-1 MS	FS05	Total/NA	Solid	8015NM Prep	
890-1211-1 MSD	FS05	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 7498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1211-1	FS05	Soluble	Solid	DI Leach	
MB 880-7498/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-7498/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7498/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1211-1 MS	FS05	Soluble	Solid	DI Leach	
890-1211-1 MSD	FS05	Soluble	Solid	DI Leach	

Analysis Batch: 7500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1211-1	FS05	Soluble	Solid	300.0	7498
MB 880-7498/1-A	Method Blank	Soluble	Solid	300.0	7498
LCS 880-7498/2-A	Lab Control Sample	Soluble	Solid	300.0	7498

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1211-1
Project/Site: Elk Wallow 11 State #1 SDG: TE012921045

HPLC/IC (Continued)

Analysis Batch: 7500 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-7498/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7498
890-1211-1 MS	FS05	Soluble	Solid	300.0	7498
890-1211-1 MSD	FS05	Soluble	Solid	300.0	7498

Lab Chronicle

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

Job ID: 890-1211-1
SDG: TE012921045

Client Sample ID: FS05

Date Collected: 09/02/21 09:50
Date Received: 09/02/21 12:58

Lab Sample ID: 890-1211-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7477	09/03/21 09:33	KL	XEN MID
Total/NA	Analysis	8021B		1	7486	09/03/21 13:13	KL	XEN MID
Total/NA	Prep	8015NM Prep			7495	09/03/21 11:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7482	09/03/21 12:19	AJ	XEN MID
Soluble	Leach	DI Leach			7498	09/03/21 11:32	SC	XEN MID
Soluble	Analysis	300.0		1	7500	09/03/21 16:46	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1211-1
Project/Site: Elk Wallow 11 State #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	06-30-22

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

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

Method Summary

Client: WSP USA Inc. Job ID: 890-1211-1
Project/Site: Elk Wallow 11 State #1 SDG: TE012921045

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: 890-1211-1
SDG: TE012921045

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1211-1	FS05	Solid	09/02/21 09:50	09/02/21 12:58	12

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Chain of Custody

Work Order No: _____

XENCO LABORATORIES

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

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9/3/2021

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

Work Order Comments

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

Project Name:	Elk Wallow 11 State #1	Turn Around	
Project Number:	TE012921045	Routine ☐	
P.O. Number:		Rush: 24H	
Sampler's Name:	Elliot Lee	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	12.4/12.4 CP	Thermometer ID	TNM-007
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	1

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS05	S	9/2/2021	9:50	12'	1	X	X	X

890-1211 Chain of Custody

Work Order Notes

Cost Center # 1598041001
Incident # NMAP1825459428
AFE: PA.2020.02331.EXP.01

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

Sample Comments

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 Tl Sn U V Zn

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9.2.21 1259	2		
3			4		
5			6		

Revised Date 051418 Rev 2018 1

Received by OCD: 11/4/2021 2:30:53 PM

Released to Imaging: 2/8/2022 3:41:54 PM

Eurofins Xenco, Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-390 1
Client Contact: Shipping/Receiving	Phone	E-Mail: jessica kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana, NELAP - Texas		Job #: 890-1211-1
Address: 1211 W Florida Ave	Due Date Requested: 9/3/2021			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Elk Wallow 11 State #1	Project #: 89000004			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
FS05 (890-1211-1)	9/2/21	09 50 Mountain		Solid			X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Cee Cuff 9.2.21		Xenco		9/3/21 10.45	Xenco
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks	3.2/3.7

Ver: 06/08/2021

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Received by OCD: 11/4/2021 2:30:53 PM
9/3/2021
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Released to Imaging: 2/8/2022 3:41:54 PM

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1211-1
SDG Number: TE012921045

Login Number: 1211
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: 890-1211-1
SDG Number: TE012921045

Login Number: 1211
List Number: 2
Creator: Lowe, Katie

List Source: Eurofins Xenco, Midland
List Creation: 09/03/21 10:53 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 60331

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 60331
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	None	2/8/2022