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	NAPP2130054846
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2130054846
District RP	
Facility ID	
Application ID	

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?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

☐ 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: _____ Title: _____

Signature: Adrian Bates Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Ramona Marcus Date: 11/1/2021

Location:	PLU 30 Big Sinks 105H	
Spill Date:	10/24/2021	
Area 1		
Approximate Area =	39.30	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Frac Fluid=	7.00	bbls
Area 2		
Approximate Area =	2990.00	sq. ft.
Average Saturation (or depth) of spill =	2.25	inches

Average Porosity Factor =	0.03	

VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Frac Fluid =	3.00	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Frac Fluid =	**10.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Frac Fluid =	**7.00**	**bbls**

Incident ID	NAPP2130054846
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Incident ID	NAPP2130054846
District RP	
Facility ID	
Application ID	

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

Printed Name: Adrian Baker Title: Environmental Coordinator

Signature: Adrian Baker Date: 01/19/2022

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

OCD Only

Received by: _____ Date: _____

Incident ID	NAPP2130054846
District RP	
Facility ID	
Application ID	

Closure

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

Closure Report Attachment Checklist: ***Each of the following items must be included in the 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 OCD 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 of 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: 01/19/2022

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

ODC 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: 03/21/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

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

March 17, 2022

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

RE: Closure Request
PLU 30 Big Sinks 105H
Incident Number NAPP2130054846
Eddy County, New Mexico

To Whom It May Concern:

WSP USA Inc. (WSP) on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, excavation, and soil sampling activities at the Poker Lake Unit (PLU) 30 Big Sinks 105H (Site) in Unit G, Section 30, Township 25 South, Range 31 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil following the release of hydraulic fracturing (frac) fluid at the Site. Based on excavation activities and soil sample laboratory analytical results, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident Number NAPP2130054846.

Please note, this Closure Request is a resubmittal of the January 18, 2022, report with additional information regarding composition of the released frac fluid.

RELEASE BACKGROUND

On October 24, 2021, iron was washed out during frac operations, which resulted in the release of approximately 10 barrels (bbls) of frac fluid within the lined containment and onto the surface of the well pad. A vacuum truck was immediately dispatched to the Site to recover freestanding fluids; approximately 7 bbls of frac fluid were recovered from within the lined containment. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form (Form C-141) on October 27, 2021. The release was assigned Incident Number NAPP2130054846.

The frac fluid composition is produced water. Produced water is recycled through filtering and separation, then mixed in a blender with friction reducer and used as frac fluid during the well completion process. The safety data sheet (SDS) for friction reducer is provided as an attachment.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on recent soil borings drilled for determination of regional groundwater depth. During February 2021, WSP installed a soil boring (C-04498) utilizing a truck-mounted auger drill rig approximately 1.7 miles west of the Site. Soil boring C-04498 was drilled to a depth of 109 feet bgs. A WSP geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The Well Record and Log is included in Attachment 1. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater at the borehole is greater than 109 feet. The borehole was properly abandoned with hydrated bentonite chips. The location of borehole C-04498 is provided on Figure 1.

During April 2021, WSP installed a soil boring (C-04500) utilizing a truck-mounted auger drill rig approximately 1.4 miles east of the Site. Soil boring C-04500 was drilled to a depth of 110 feet bgs. A WSP geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The Well Record and Log is included in Attachment 1. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater at the borehole is greater than 110 feet. The borehole was properly abandoned with hydrated bentonite chips. The location of borehole C-04500 is provided on Figure 1.

In addition, the nearest USGS well (USGS 320643103465002) is located 1.8 miles northeast of the Site with a reported depth to water of 400 feet bgs, measured in 2012. The location of USGS well 320643103465002 is provided on Figure 1 and the Well Record is included in Attachment 1. Although the data points listed above are greater than NMOCD's preferred 0.5-mile radius from the Site, the consistent presence of non-water bearing lithology observed in boreholes located to the west and east of the Site, and with water well data to the northeast of the Site indicating a depth to water of 400 feet bgs, WSP proposes the number and distribution of data points is sufficient to estimate depth to groundwater at the Site as greater than 100 feet bgs.

The closest continuously flowing water or significant watercourse to the Site is an intermittent riverine located approximately 2,714 feet southwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Site receptors are identified on Figure 1.

CLOSURE CRITERIA

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On December 22, 2021, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP personnel collected two preliminary assessment soil samples (SS01 and SS02) within the release extent outside of the lined containment, from a depth of approximately 0.5 feet bgs to assess the lateral extent of impacted soil. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

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

Laboratory analytical results for preliminary samples SS01 and SS02 indicated that chloride concentrations exceeded the Closure Criteria; benzene, BTEX, TPH-GRO/TPH-DRO, and TPH concentrations were compliant with the Closure Criteria. Based on visible staining in the release area, field screening activities, and laboratory analytical results for the preliminary soil samples, delineation and excavation activities were warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

On January 4, 2022, WSP personnel returned to the Site to oversee delineation and excavation activities as indicated by visual observations, field screening activities, and laboratory analytical results for preliminary soil samples SS01 and SS02.

Pothole PH01 was advanced via backhoe within the release extent to a depth of 4 feet bgs to assess the vertical extent of impacted soil. Two discrete delineation soil samples were collected from pothole PH01 at depths of 1-foot and 4 feet bgs. Soil from the pothole was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations were logged on a lithologic/soil sampling log, which is included in Attachment 2. The pothole and delineation soil sample locations are depicted on Figure 3. The delineation soil samples were collected, handled, and analyzed as described above at Eurofins in Carlsbad, New Mexico.

Excavation activities were completed to remove surficial staining in the release footprint and remove impacted soil in the area surrounding preliminary soil samples SS01 and SS02. Excavation activities were performed using a track-mounted backhoe and transport vehicle. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. The excavation was completed to an approximate depth of 1 foot bgs.

Following removal of impacted soil, WSP collected 5-point composite soil samples every 200 square feet from the floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS04 were collected from the floor of the excavation, from a depth of 1-foot bgs. Due to the shallow depth of the excavation, the soil samples represented the floor and sidewalls of the excavation. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 4. Photographic documentation was conducted during the Site visits. A photographic log is included in Attachment 3.

The excavation area measured approximately 645 square feet. A total of approximately 24 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation area was secured with fencing.

SOIL ANALYTICAL RESULTS

Laboratory analytical results for the delineation soil samples collected from pothole PH01 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria.

Laboratory analytical results for excavation floor samples FS01 through FS04, collected from the final excavation extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address impacted soil resulting from the October 24, 2021 release of frac fluid. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

Initial response efforts and excavation of impacted soil have mitigated impacts at the Site. Depth to groundwater has been determined to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. WSP and XTO believe these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests no further action for Incident Number NAPP2130054846.

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

Sincerely,

WSP USA Inc.

Hadlie Green
Assistant Consultant, Geologist

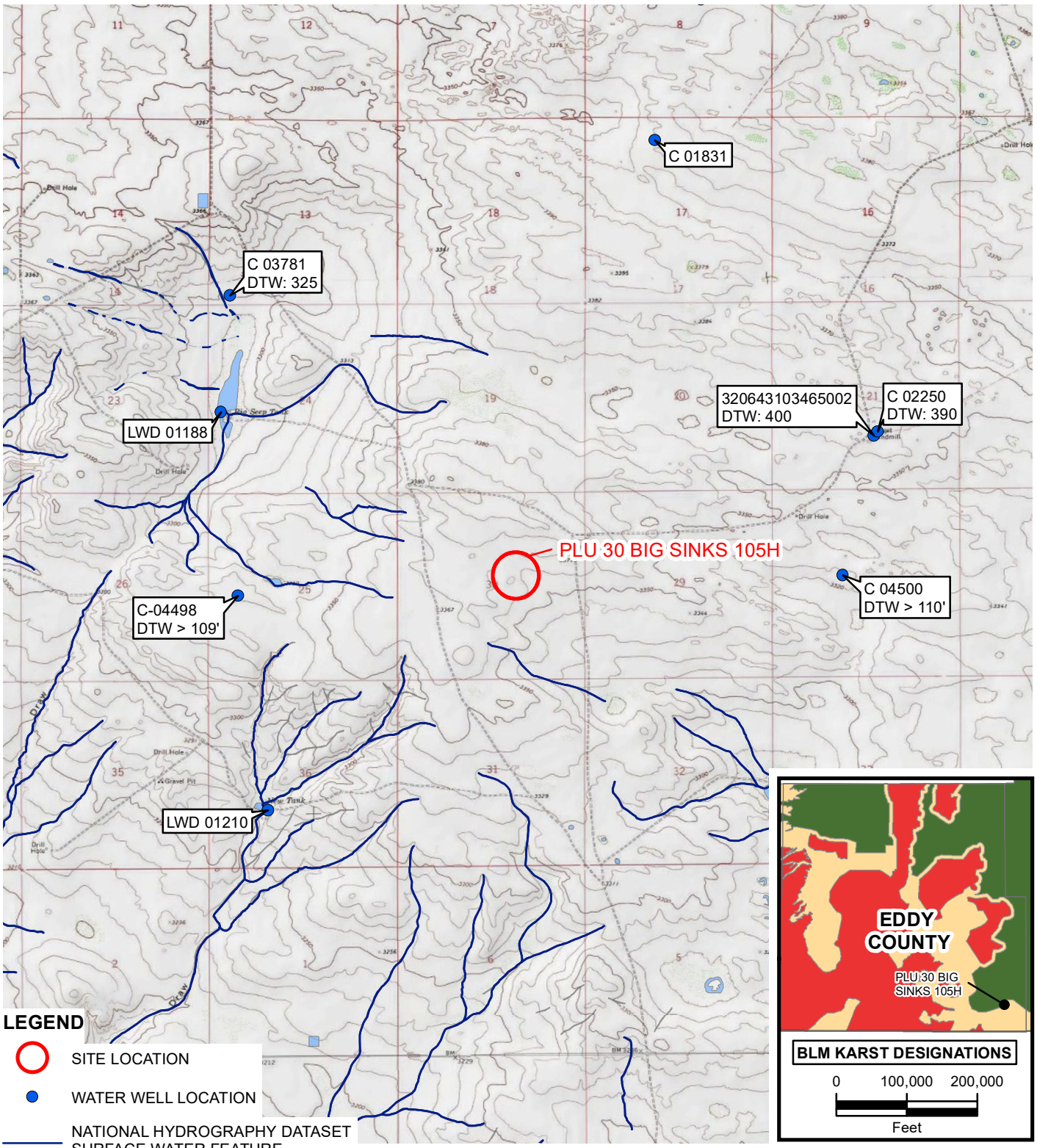
Ashley L. Ager, P.G.
Managing Director, Geologist

cc:
Adrian Baker, XTO
Bureau of Land Management

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Referenced Well Records
Attachment 2	Lithologic/ Soil Sampling Logs
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports
Attachment 5	SDS for Friction Reducer

FIGURES



LEGEND

- SITE LOCATION
- WATER WELL LOCATION
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- NATIONAL WETLANDS INVENTORY SURFACE WATER FEATURE
- LOW KARST
- MEDIUM KARST
- HIGH KARST

DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT
TD: TOTAL DEPTH IN FEET
NOTE: INCIDENT NUMBER nAPP2130054846

FIGURE 1
SITE LOCATION MAP
PLU 30 BIG SINKS 105H
UNIT G SEC 30 T25S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC

P:\XTO Energy\GIS\31403236.029.05_PLU 30 BS 105H\MXD\31403236.029.05_FIG01_SL_RECEPTOR_2021.mxd

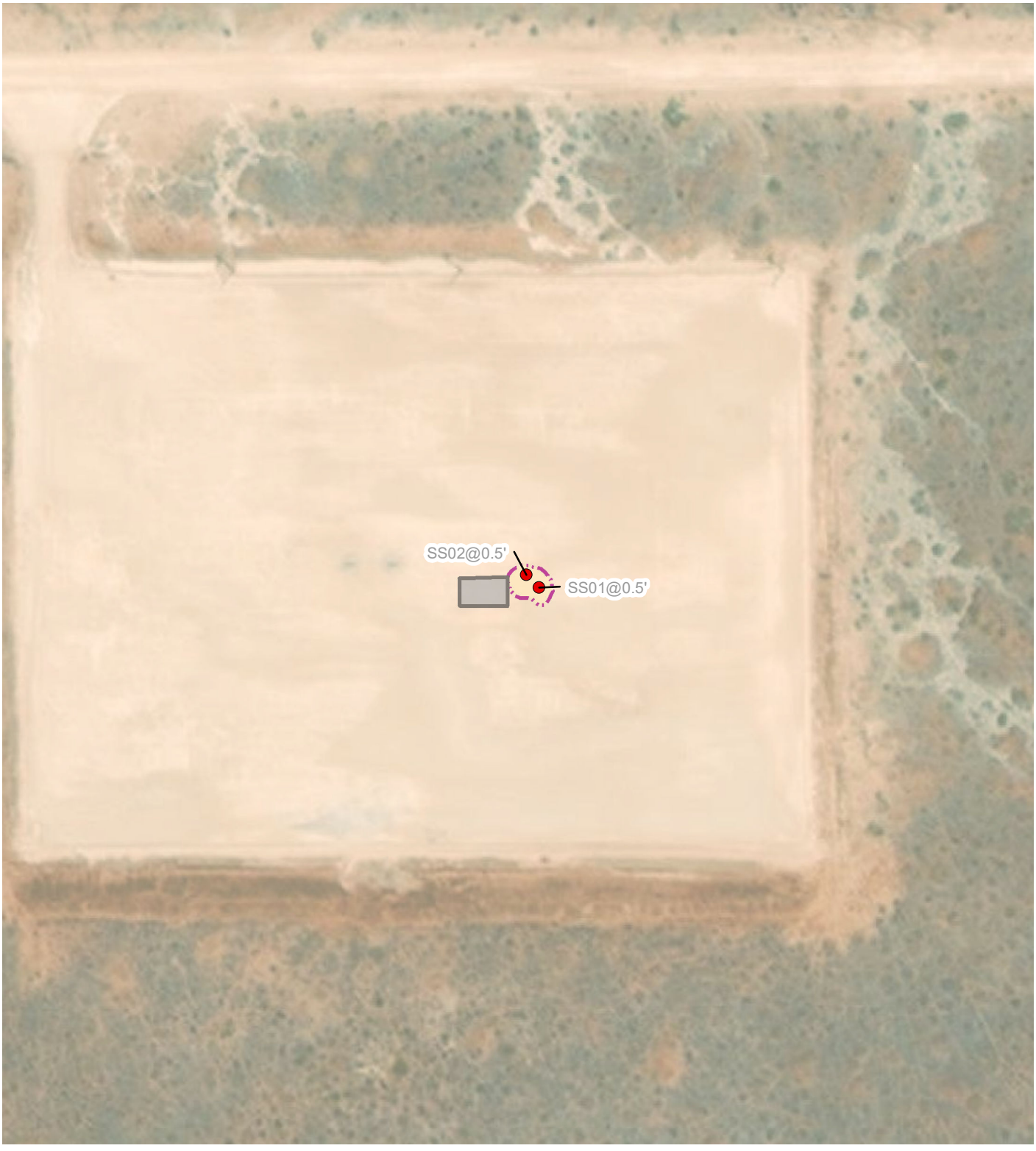


IMAGE COURTESY OF ESRI

LEGEND

PRELIMINARY SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA

RELEASE EXTENT

LINED CONTAINMENT

0 100 200

Feet

N

NOTE: INCIDENT NUMBER nAPP2130054846
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
TEXT: INDICATES SOIL REPRESENTED BY SAMPLE THAT WAS REMOVED

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
PLU 30 BIG SINKS 105H
UNIT G SEC 30 T25S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

wsp

P:\XTO Energy\GIS\31403236.029.05_PLU 30 BS 105H\MXD\31403236.029.05_FIG02_PRELIMINARY_2022.mxd

IMAGE COURTESY OF ESRI

LEGEND

DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

RELEASE EXTENT

LINED CONTAINMENT

0 100 200

Feet

N

NOTE: INCIDENT NUMBER nAPP2130054846
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
PLU 30 BIG SINKS 105H
UNIT G SEC 30 T25S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\31403236.029.05_PLU 30 BS 105H\MXD\31403236.029.05_FIG03_DELINEATION_2022.mxd

LEGEND

FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

EXCAVATION EXTENT

LINED CONTAINMENT

IMAGE COURTESY OF ESRI

0 100 200

Feet

N

NOTE: INCIDENT NUMBER nAPP2130054846
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

FIGURE 4
EXCAVATION SOIL SAMPLE LOCATIONS
PLU 30 BIG SINKS 105H
UNIT G SEC 30 T25S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\31403236.029.05_PLU 30 BS 105H\MXD\31403236.029.05_FIG04_EXCAVATION_2022.mxd

TABLES

Table 1

Soil Analytical Results
PLU 30 Big Sinks 105H
Incident Number NAPP2130054846
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Surface Samples										
SS01	12/22/2021	0.5	<0.00200	<0.00399	64.4	<49.9	<49.9	64.4	64.4	**33,900**
SS02	12/22/2021	0.5	<0.00202	<0.00404	204	<50.0	<50.0	204	204	**27,200**
Delineation Soil Samples										
PH01	01/04/2022	1	<0.00199	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	518
PH01A	01/04/2022	4	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	229
cavation Floor Samples										
FS01	01/04/2022	1	<0.00198	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	556
FS02	01/04/2022	1	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	1,230
FS03	01/04/2022	1	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	246
FS04	01/04/2022	1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	559

Notes:

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

ATTACHMENT 1: REFERENCED WELL RECORD

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DII MAR 11 2021 PM4:22

Copy

APPLICANT

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4498

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy (Kyle Littrell)	

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	6'	1.96"	N
	LONGITUDE	-103°	50'	26.19"	W

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

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

NW SW NE Sec. 25 T25S R30E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
02/24/2021	02/24/2021	temporary well material	109	n/a

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

STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	109	±6.5	Boring- HSA	--	--	--	--

3. ANNULAR MATERIAL

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

FOR OSE INTERNAL USE

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

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

4. HYDROGEOLOGIC ~~LOG~~ OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	34	34	Caliche, tan, no odor, no stain, gravel, dry	Y ✓ N	
34	40	6	sand/ cacliche, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
40	56	16	sand, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
56	72	16	sandstone, low consolidation, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
72	79	7	sand, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
79	109	30	sandstone, low - medium consolidation, tan, no odor, m-f grained, well sorted, m	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

~~METHOD~~ USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface. Logs adapted from WSP on-site geologist.

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

Shane Eldridge

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 03/11/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

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

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4498- POD1

Well owner: XTO ENERGY (Kyle Littrell) Phone No.: 432.682.8873

Mailing address: 6401 Holiday Hill Dr.

City: Midland State: Texas Zip code: 79707

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)

2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/21

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge

4) Date well plugging began: 03/02/2021 Date well plugging concluded: 03/02/2021

5) GPS Well Location: Latitude: 32 deg, 6 min, 1.96 sec
Longitude: -103 deg, 50 min, 26.19 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 109 ft below ground level (bgl), by the following manner: weighted tape

7) Static water level measured at initiation of plugging: n/a ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 12/01/2020

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

Version: September 8, 2009
Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	0-10' Hydrated Bentonite	Approx. 16 gallons	16 gallons	Augers	
	10'-109' Drill Cuttings	Approx. 171 gallons	171 gallons	Boring	

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jack Atkins

Signature of Well Driller

03/11/2021

Date

Version: September 8, 2009
Page 2 of 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4500

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy (Kyle Littrell)	

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	6	6.96	N
	LONGITUDE	103	47	6.75	W

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

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

SE NW Sec. 28 T25S R31E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
03/24/2021	03/24/2021	temporary well material	110	n/a

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

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

3. ANNULAR MATERIAL

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

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/17)

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

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1	1	Caliche, no odor, no stain, tan, light-brown	Y ✓ N	
1	3	2	Sand, no odor, no stain, m-f, well sorted, brown, trace silt, low consolidation	Y ✓ N	
3	7	4	Sandy clay, no odor, no stain, m-f, brown, well sorted, low plasticity, cohesive	Y ✓ N	
7	23	16	Caliche,tan, light brown sand, m-f grained, poorly sorted, low consolidation	Y ✓ N	
23	110	87	sand, brown, no odor, no stain, fine grained, well sorted, low consolidation	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION: PLU 28 BS 126H, Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface.
Logs adapted from WSP on-site geologist.

RECEIVED OSE D.T. MAY 5 2021 PM 01:53

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

Shane Eldridge

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 05/05/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

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

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4500- POD1

Well owner: XTO ENERGY (Kyle Littrell) Phone No.: 432.682.8873

Mailing address: 6401 Holiday Hill Dr.

City: Midland State: Texas Zip code: 79707

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)

2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/23

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge

4) Date well plugging began: 04/27/2021 Date well plugging concluded: 04/27/2021

5) GPS Well Location: Latitude: 32 deg, 6 min, 6.96 sec
Longitude: 103 deg, 47 min, 6.75 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 110 ft below ground level (bgl), by the following manner: weighted tape

7) Static water level measured at initiation of plugging: n/a ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 12/01/2020

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

Version: September 8, 2009
Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	0-10' Hydrated Bentonite	Approx.15.8 gallons	16 gallons	Augers	
	10'-110' Drill Cuttings	Approx. 172 gallons	172 gallons	Boring	

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

RECEIVED MAY 5 2021

III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jack Atkins — Signature of Well Driller

05/05/2021 — Date

Version: September 8, 2009
Page 2 of 2

National Water Information System: Web Interface

USGS Water Resources (Cooperator Access) Data Category: Groundwater Geographic Area: United States GO

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 320643103465002

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

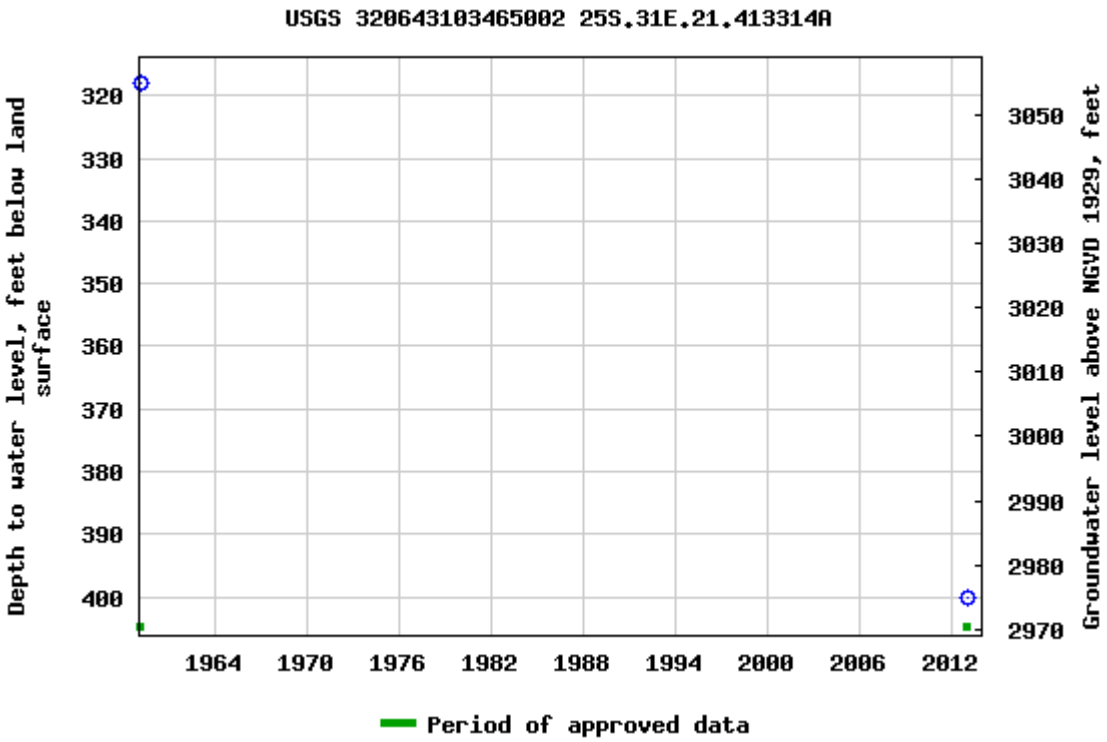
USGS 320643103465002 25S.31E.21.413314A

Available data for this site Groundwater: Field measurements GO

Eddy County, New Mexico
Hydrologic Unit Code 13070001
Latitude 32°06'46.0", Longitude 103°46'56.3" NAD83
Land-surface elevation 3,374.00 feet above NGVD29
The depth of the well is 400 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

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

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2021-12-06 15:54:16 EST
0.57 0.51 nadww02

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: PH01	Date: 01/04/2022
	Site Name: PLU 30 Big Sinks 105H	
	RP or Incident Number: NAPP2130054846	
	WSP Job Number: 31403236.029	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: PB	Method: BACKHOE
Lat/Long: 32.102159, -103.814976	Field Screening: Chloride, PID	Hole Diameter: N/A	Total Depth: 4'
Comments:			

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
M	577	0.9	N	PH01	1	1	SP-SM	SAND, MOIST, BROWN, FINE GRAINED, WELL SORTED, ABUNDANT SILT AND CLAY, POORLY GRADED, NO S/O
M	<162.4	0.0	N			2	SP-SM	SAA
M	<162.4	0.0	N			3	SP-SM	SAA
M	520.8	0.0	N	PH01A	4	4	SP-SC	SAA, BUT ABUNDANT CALICHE GRAVEL

TD @ 4 ft bgs

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	PLU 30 Big Sinks 105H Eddy County, NM	NAPP2130054846

Photo No.	Date
1	December 22, 2021

East facing view of release extent.

Photo No.	Date
2	December 22, 2021

West facing view of release extent to the east of infrastructure.

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	PLU 30 Big Sinks 105H Eddy County, NM	NAPP2130054846

Photo No.	Date
3	January 4, 2022

Southeast view of excavation extent to the east of infrastructure.

Photo No.	Date
4	January 4, 2022

West facing view of excavation extent to the east of infrastructure.

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1751-1
Laboratory Sample Delivery Group: 31403236.029
Client Project/Site: PLU 30 BS 105H

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

Attn: Benjamin Belill

JKramer

Authorized for release by:
12/31/2021 10:32:20 AM

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

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Laboratory Job ID: 890-1751-1
SDG: 31403236.029

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1751-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029

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
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery 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: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

Job ID: 890-1751-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1751-1

Receipt
The samples were received on 12/23/2021 9:57 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-15714/21), (CCV 880-15714/34), (LCS 880-15693/1-A), (LCSD 880-15693/2-A) and (880-9683-A-1-C). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-15693 and analytical batch 880-15714 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-15659 and analytical batch 880-15677 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

Client Sample ID: SS01

Date Collected: 12/22/21 15:15
Date Received: 12/23/21 09:57
Sample Depth: 0.5

Lab Sample ID: 890-1751-1

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		12/29/21 08:23	12/30/21 04:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/29/21 08:23	12/30/21 04:22	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/29/21 08:23	12/30/21 04:22	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/29/21 08:23	12/30/21 04:22	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/29/21 08:23	12/30/21 04:22	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/29/21 08:23	12/30/21 04:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*12/29/21 08:23*	*12/30/21 04:22*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*12/29/21 08:23*	*12/30/21 04:22*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			12/30/21 10:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**64.4**		49.9		mg/Kg			12/30/21 10:33	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 F1	49.9		mg/Kg		12/28/21 13:53	12/29/21 11:07	1
Diesel Range Organics (Over C10-C28)	**64.4**	**F1 *+**	49.9		mg/Kg		12/28/21 13:53	12/29/21 11:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/28/21 13:53	12/29/21 11:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*12/28/21 13:53*	*12/29/21 11:07*	*1*
o-Terphenyl	*104*		*70 - 130*	*12/28/21 13:53*	*12/29/21 11:07*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33900**	**F1**	249		mg/Kg			12/31/21 00:16	50

Client Sample ID: SS02

Date Collected: 12/22/21 15:18
Date Received: 12/23/21 09:57
Sample Depth: 0.5

Lab Sample ID: 890-1751-2

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		12/29/21 08:23	12/30/21 04:42	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/29/21 08:23	12/30/21 04:42	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		12/29/21 08:23	12/30/21 04:42	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		12/29/21 08:23	12/30/21 04:42	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		12/29/21 08:23	12/30/21 04:42	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		12/29/21 08:23	12/30/21 04:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*	*12/29/21 08:23*	*12/30/21 04:42*	*1*

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Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

Client Sample ID: SS02

Date Collected: 12/22/21 15:18
Date Received: 12/23/21 09:57
Sample Depth: 0.5

Lab Sample ID: 890-1751-2

Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*12/29/21 08:23*	*12/30/21 04:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			12/30/21 10:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**204**		50.0		mg/Kg			12/30/21 10:33	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		12/28/21 13:53	12/29/21 12:10	1
Diesel Range Organics (Over C10-C28)	**204**	***+**	50.0		mg/Kg		12/28/21 13:53	12/29/21 12:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/28/21 13:53	12/29/21 12:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*120*		*70 - 130*	*12/28/21 13:53*	*12/29/21 12:10*	*1*
o-Terphenyl	*118*		*70 - 130*	*12/28/21 13:53*	*12/29/21 12:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**27200**		251		mg/Kg			12/31/21 00:52	50

Surrogate Summary

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

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)								
880-9683-A-1-A MS	Matrix Spike	132 S1+	73								
880-9683-A-1-B MSD	Matrix Spike Duplicate	108	95								
890-1751-1	SS01	126	106								
890-1751-2	SS02	133 S1+	103								
LCS 880-15693/1-A	Lab Control Sample	99	96								
LCSD 880-15693/2-A	Lab Control Sample Dup	146 S1+	109								
MB 880-15651/5-A	Method Blank	104	102								
MB 880-15693/5-A	Method Blank	117	105								

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)								
890-1751-1	SS01	104	104								
890-1751-1 MS	SS01	110	93								
890-1751-1 MSD	SS01	110	93								
890-1751-2	SS02	120	118								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO2	OTPH2								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
LCS 880-15659/2-A	Lab Control Sample	100	96								
LCSD 880-15659/3-A	Lab Control Sample Dup	121	123								
MB 880-15659/1-A	Method Blank	102	105								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-15651/5-A
Matrix: Solid
Analysis Batch: 15714

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 15651

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/28/21 13:02	12/29/21 12:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/28/21 13:02	12/29/21 12:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/28/21 13:02	12/29/21 12:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/28/21 13:02	12/29/21 12:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/28/21 13:02	12/29/21 12:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/28/21 13:02	12/29/21 12:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*12/28/21 13:02*	*12/29/21 12:43*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/28/21 13:02*	*12/29/21 12:43*	*1*

Lab Sample ID: MB 880-15693/5-A
Matrix: Solid
Analysis Batch: 15714

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 15693

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/29/21 08:23	12/29/21 23:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/29/21 08:23	12/29/21 23:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/29/21 08:23	12/29/21 23:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/29/21 08:23	12/29/21 23:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/29/21 08:23	12/29/21 23:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/29/21 08:23	12/29/21 23:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*12/29/21 08:23*	*12/29/21 23:35*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*12/29/21 08:23*	*12/29/21 23:35*	*1*

Lab Sample ID: LCS 880-15693/1-A
Matrix: Solid
Analysis Batch: 15714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 15693

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-15693/2-A
Matrix: Solid
Analysis Batch: 15714

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 15693

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.07766		mg/Kg		78	70 - 130	NaN	35
Toluene			0.100	0.07298		mg/Kg		73	70 - 130	NaN	35
Ethylbenzene			0.100	0.09873		mg/Kg		99	70 - 130	NaN	35
m-Xylene & p-Xylene			0.200	0.1998		mg/Kg		100	70 - 130	NaN	35
o-Xylene			0.100	0.1009		mg/Kg		101	70 - 130	NaN	35

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

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

Lab Sample ID: LCSD 880-15693/2-A
Matrix: Solid
Analysis Batch: 15714

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 15693

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	146	S1+	70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 880-9683-A-1-A MS
Matrix: Solid
Analysis Batch: 15714

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 15693

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F2 F1	0.0996	0.03709	F1	mg/Kg		37	70 - 130
Toluene	<0.00199	U F1	0.0996	0.05151	F1	mg/Kg		52	70 - 130
Ethylbenzene	<0.00199	U F1	0.0996	0.05531	F1	mg/Kg		56	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.199	0.1246	F1	mg/Kg		63	70 - 130
o-Xylene	<0.00199	U F1	0.0996	0.06210	F1	mg/Kg		62	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130
1,4-Difluorobenzene (Surr)	73		70 - 130

Lab Sample ID: 880-9683-A-1-B MSD
Matrix: Solid
Analysis Batch: 15714

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 15693

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	0.0998	0.06682	F2 F1	mg/Kg		67	70 - 130	57	35
Toluene	<0.00199	U F1	0.0998	0.06868	F1	mg/Kg		69	70 - 130	29	35
Ethylbenzene	<0.00199	U F1	0.0998	0.06890	F1	mg/Kg		69	70 - 130	22	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1420		mg/Kg		71	70 - 130	13	35
o-Xylene	<0.00199	U F1	0.0998	0.07328		mg/Kg		73	70 - 130	17	35

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

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

Lab Sample ID: MB 880-15659/1-A
Matrix: Solid
Analysis Batch: 15677

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 15659

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		12/28/21 13:53	12/29/21 10:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/28/21 13:53	12/29/21 10:02	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/28/21 13:53	12/29/21 10:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	12/28/21 13:53	12/29/21 10:02	1

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QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

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

Lab Sample ID: MB 880-15659/1-A
Matrix: Solid
Analysis Batch: 15677

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 15659

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	105		70 - 130	12/28/21 13:53	12/29/21 10:02	1

Lab Sample ID: LCS 880-15659/2-A
Matrix: Solid
Analysis Batch: 15677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 15659

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1088		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1110		mg/Kg		111	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: LCSD 880-15659/3-A
Matrix: Solid
Analysis Batch: 15677

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 15659

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1188		mg/Kg		119	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	1311	*+	mg/Kg		131	70 - 130	17	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	121		70 - 130
o-Terphenyl	123		70 - 130

Lab Sample ID: 890-1751-1 MS
Matrix: Solid
Analysis Batch: 15677

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 15659

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	1990	2008		mg/Kg		101	70 - 130		
Diesel Range Organics (Over C10-C28)	64.4	F1 *+	1990	1989		mg/Kg		97	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	93		70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

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

Lab Sample ID: 890-1751-1 MSD — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 15677 — **Prep Batch: 15659**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	2000	2003		mg/Kg		100	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	64.4	F1 *+	2000	1983		mg/Kg		96	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*110*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15694/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 15818

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/30/21 23:40	1

Lab Sample ID: LCS 880-15694/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 15818

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	259.4		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-15694/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 15818

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	260.1		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-1751-1 MS — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 15818

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	33900	F1	12500	44650	F1	mg/Kg		86	90 - 110		

Lab Sample ID: 890-1751-1 MSD — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 15818

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	33900	F1	12500	45280		mg/Kg		91	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

GC VOA

Prep Batch: 15651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-15651/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 15693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1751-1	SS01	Total/NA	Solid	5035	
890-1751-2	SS02	Total/NA	Solid	5035	
MB 880-15693/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-15693/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-15693/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-9683-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-9683-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 15714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1751-1	SS01	Total/NA	Solid	8021B	15693
890-1751-2	SS02	Total/NA	Solid	8021B	15693
MB 880-15651/5-A	Method Blank	Total/NA	Solid	8021B	15651
MB 880-15693/5-A	Method Blank	Total/NA	Solid	8021B	15693
LCS 880-15693/1-A	Lab Control Sample	Total/NA	Solid	8021B	15693
LCSD 880-15693/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	15693
880-9683-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	15693
880-9683-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	15693

Analysis Batch: 15797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1751-1	SS01	Total/NA	Solid	Total BTEX	
890-1751-2	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 15659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1751-1	SS01	Total/NA	Solid	8015NM Prep	
890-1751-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-15659/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15659/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-15659/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1751-1 MS	SS01	Total/NA	Solid	8015NM Prep	
890-1751-1 MSD	SS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 15677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1751-1	SS01	Total/NA	Solid	8015B NM	15659
890-1751-2	SS02	Total/NA	Solid	8015B NM	15659
MB 880-15659/1-A	Method Blank	Total/NA	Solid	8015B NM	15659
LCS 880-15659/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15659
LCSD 880-15659/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15659
890-1751-1 MS	SS01	Total/NA	Solid	8015B NM	15659
890-1751-1 MSD	SS01	Total/NA	Solid	8015B NM	15659

QC Association Summary

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

GC Semi VOA

Analysis Batch: 15798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1751-1	SS01	Total/NA	Solid	8015 NM	
890-1751-2	SS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 15694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1751-1	SS01	Soluble	Solid	DI Leach	
890-1751-2	SS02	Soluble	Solid	DI Leach	
MB 880-15694/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15694/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15694/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1751-1 MS	SS01	Soluble	Solid	DI Leach	
890-1751-1 MSD	SS01	Soluble	Solid	DI Leach	

Analysis Batch: 15818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1751-1	SS01	Soluble	Solid	300.0	15694
890-1751-2	SS02	Soluble	Solid	300.0	15694
MB 880-15694/1-A	Method Blank	Soluble	Solid	300.0	15694
LCS 880-15694/2-A	Lab Control Sample	Soluble	Solid	300.0	15694
LCSD 880-15694/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15694
890-1751-1 MS	SS01	Soluble	Solid	300.0	15694
890-1751-1 MSD	SS01	Soluble	Solid	300.0	15694

Lab Chronicle

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

Client Sample ID: SS01

Lab Sample ID: 890-1751-1
Matrix: Solid
Date Collected: 12/22/21 15:15
Date Received: 12/23/21 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15693	12/29/21 08:23	MR	XEN MID
Total/NA	Analysis	8021B		1	15714	12/30/21 04:22	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15797	12/30/21 10:20	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15798	12/30/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15659	12/28/21 13:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15677	12/29/21 11:07	AJ	XEN MID
Soluble	Leach	DI Leach			15694	12/29/21 08:26	CH	XEN MID
Soluble	Analysis	300.0		50	15818	12/31/21 00:16	CH	XEN MID

Client Sample ID: SS02

Lab Sample ID: 890-1751-2
Matrix: Solid
Date Collected: 12/22/21 15:18
Date Received: 12/23/21 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15693	12/29/21 08:23	MR	XEN MID
Total/NA	Analysis	8021B		1	15714	12/30/21 04:42	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15797	12/30/21 10:20	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15798	12/30/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15659	12/28/21 13:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15677	12/29/21 12:10	AJ	XEN MID
Soluble	Leach	DI Leach			15694	12/29/21 08:26	CH	XEN MID
Soluble	Analysis	300.0		50	15818	12/31/21 00:52	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: 890-1751-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Method Summary

Client: WSP USA Inc. Job ID: 890-1751-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1751-1
SDG: 31403236.029

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1751-1	SS01	Solid	12/22/21 15:15	12/23/21 09:57	0.5
890-1751-2	SS02	Solid	12/22/21 15:18	12/23/21 09:57	0.5

Chain of Custody

XENCO LABORATORIES

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Adrian Baker
Company Name:	WSP	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:	989-854-0852 Email:	Email:	Gilbert.Moreno@wsp.com, Adrian.Baker@exxonmobil.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:	PLU 30 BS 105H	Turn Around	
Project Number:	31403236.029	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Gilbert Moreno	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	2.4/2.2	Thermometer ID	TWM-007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Total Containers:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
SS01	S	12.22.21	15:15	0.5	1	X	X	X
SS02	S	12.22.22	15:18	0.5	1	X	X	X

890-1751 Chain of Custody

Work Order Notes

CC:
AFE DD 2017 01965 CAP CMP 01
API

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

Sample Comments

12.23.21

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		12.23.21 0957			
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1751-1
SDG Number: 31403236.029

Login Number: 1751
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: 890-1751-1
SDG Number: 31403236.029

Login Number: 1751
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Xenco, Midland
List Creation: 12/28/21 10:39 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1797-1
Laboratory Sample Delivery Group: 31403236.029 TASK 05.02
Client Project/Site: PLU 30 BS 105H

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

Attn: Benjamin Belill

Authorized for release by:
1/10/2022 12:07:40 PM

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

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Laboratory Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1797-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029 TASK 05.02

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: PLU 30 BS 105H

Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

Job ID: 890-1797-1

Laboratory: Eurofins Xenco

Narrative

Job Narrative
890-1797-1

Receipt
The samples were received on 1/4/2022 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA
Method Total_BTEX_GCV: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-16093 and analytical batch 880-16114 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-16142 and analytical batch 880-16117 recovered outside control limits for the following analytes: <AffectedAnalytes>.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-16090 and analytical batch 880-16214 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

Client Sample ID: PH01

Date Collected: 01/04/22 09:14
Date Received: 01/04/22 15:48
Sample Depth: 1

Lab Sample ID: 890-1797-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/06/22 11:30	01/06/22 19:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/06/22 11:30	01/06/22 19:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/06/22 11:30	01/06/22 19:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/06/22 11:30	01/06/22 19:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/06/22 11:30	01/06/22 19:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/06/22 11:30	01/06/22 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*204*	*S1+*	*70 - 130*	*01/06/22 11:30*	*01/06/22 19:03*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*01/06/22 11:30*	*01/06/22 19:03*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/07/22 08:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/10/22 12:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/06/22 12:43	01/06/22 16:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		01/06/22 12:43	01/06/22 16:58	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/06/22 12:43	01/06/22 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*69*	*S1-*	*70 - 130*	*01/06/22 12:43*	*01/06/22 16:58*	*1*
o-Terphenyl	*81*		*70 - 130*	*01/06/22 12:43*	*01/06/22 16:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**518**		5.05		mg/Kg			01/06/22 21:43	1

Client Sample ID: PH01A

Date Collected: 01/04/22 09:20
Date Received: 01/04/22 15:48
Sample Depth: 4

Lab Sample ID: 890-1797-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		01/06/22 11:30	01/06/22 19:30	1
Toluene	<0.00202	U	0.00202		mg/Kg		01/06/22 11:30	01/06/22 19:30	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		01/06/22 11:30	01/06/22 19:30	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		01/06/22 11:30	01/06/22 19:30	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		01/06/22 11:30	01/06/22 19:30	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		01/06/22 11:30	01/06/22 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*189*	*S1+*	*70 - 130*	*01/06/22 11:30*	*01/06/22 19:30*	*1*

Eurofins Xenco

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

Client Sample ID: PH01A
Date Collected: 01/04/22 09:20
Date Received: 01/04/22 15:48
Sample Depth: 4

Lab Sample ID: 890-1797-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*01/06/22 11:30*	*01/06/22 19:30*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			01/07/22 08:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/10/22 12:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 18:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0		mg/Kg		01/06/22 12:43	01/06/22 18:00	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*01/06/22 12:43*	*01/06/22 18:00*	*1*
o-Terphenyl	*95*		*70 - 130*	*01/06/22 12:43*	*01/06/22 18:00*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**229**		4.98		mg/Kg			01/06/22 22:06	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

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)
890-1797-1	PH01	204 S1+	89
890-1797-2	PH01A	189 S1+	98

Surrogate Legend

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

Method: Total BTEX - Total BTEX Calculation

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB	DFBZ
Lab Sample ID	Client Sample ID		
880-9879-A-1-B MS	Matrix Spike		
880-9879-A-1-C MSD	Matrix Spike Duplicate		
LCS 880-16093/1-A	Lab Control Sample		
LCSD 880-16093/2-A	Lab Control Sample Dup		
MB 880-16093/5-A	Method Blank		

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)
890-1797-1	PH01	69 S1-	81
890-1797-1 MS	PH01	77	83
890-1797-1 MSD	PH01	77	81
890-1797-2	PH01A	80	95
LCS 880-16142/2-A	Lab Control Sample	104	107
LCSD 880-16142/3-A	Lab Control Sample Dup	110	119
MB 880-16142/1-A	Method Blank	74	85

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

Method: Total BTEX - Total BTEX Calculation

Lab Sample ID: LCS 880-16093/1-A
Matrix: Solid
Analysis Batch: 16114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16093

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

Lab Sample ID: LCSD 880-16093/2-A
Matrix: Solid
Analysis Batch: 16114

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16093

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

Lab Sample ID: 880-9879-A-1-B MS
Matrix: Solid
Analysis Batch: 16114

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 16093

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

Lab Sample ID: 880-9879-A-1-C MSD
Matrix: Solid
Analysis Batch: 16114

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 16093

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

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

Lab Sample ID: MB 880-16142/1-A
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16142

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 15:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 15:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 15:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130	01/06/22 12:43	01/06/22 15:37	1
o-Terphenyl	85		70 - 130	01/06/22 12:43	01/06/22 15:37	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

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

Lab Sample ID: LCS 880-16142/2-A
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16142

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	773.3		mg/Kg		77	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	895.8		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*107*		*70 - 130*

Lab Sample ID: LCSD 880-16142/3-A
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16142

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	917.7		mg/Kg		92	70 - 130	17	20
Diesel Range Organics (Over C10-C28)			1000	1151	*1	mg/Kg		115	70 - 130	25	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*110*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Lab Sample ID: 890-1797-1 MS
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 16142

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	735.3		mg/Kg		74	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U *1	996	897.9		mg/Kg		87	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*77*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: 890-1797-1 MSD
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 16142

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	766.8		mg/Kg		77	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U *1	999	884.4		mg/Kg		85	70 - 130	2	20

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

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

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

Lab Sample ID: 890-1797-1 MSD
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 16142

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	*81*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-16090/1-A
Matrix: Solid
Analysis Batch: 16214

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/06/22 20:32	1

Lab Sample ID: LCS 880-16090/2-A
Matrix: Solid
Analysis Batch: 16214

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	234.1		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-16090/3-A
Matrix: Solid
Analysis Batch: 16214

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	238.8		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 880-9872-A-14-D MS
Matrix: Solid
Analysis Batch: 16214

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	16200	F1	4990	20290	F1	mg/Kg		83	90 - 110		

Lab Sample ID: 880-9872-A-14-E MSD
Matrix: Solid
Analysis Batch: 16214

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	16200	F1	4990	19750	F1	mg/Kg		72	90 - 110	3	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1797-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029 TASK 05.02

GC VOA

Prep Batch: 16093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1797-1	PH01	Total/NA	Solid	5035	
890-1797-2	PH01A	Total/NA	Solid	5035	
MB 880-16093/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16093/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16093/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-9879-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-9879-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 16114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1797-1	PH01	Total/NA	Solid	8021B	16093
890-1797-2	PH01A	Total/NA	Solid	8021B	16093
MB 880-16093/5-A	Method Blank	Total/NA	Solid	Total BTEX	16093
LCS 880-16093/1-A	Lab Control Sample	Total/NA	Solid	Total BTEX	16093
LCSD 880-16093/2-A	Lab Control Sample Dup	Total/NA	Solid	Total BTEX	16093
880-9879-A-1-B MS	Matrix Spike	Total/NA	Solid	Total BTEX	16093
880-9879-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	Total BTEX	16093

Analysis Batch: 16207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1797-1	PH01	Total/NA	Solid	Total BTEX	
890-1797-2	PH01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 16117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1797-1	PH01	Total/NA	Solid	8015B NM	16142
890-1797-2	PH01A	Total/NA	Solid	8015B NM	16142
MB 880-16142/1-A	Method Blank	Total/NA	Solid	8015B NM	16142
LCS 880-16142/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16142
LCSD 880-16142/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16142
890-1797-1 MS	PH01	Total/NA	Solid	8015B NM	16142
890-1797-1 MSD	PH01	Total/NA	Solid	8015B NM	16142

Prep Batch: 16142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1797-1	PH01	Total/NA	Solid	8015NM Prep	
890-1797-2	PH01A	Total/NA	Solid	8015NM Prep	
MB 880-16142/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16142/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16142/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1797-1 MS	PH01	Total/NA	Solid	8015NM Prep	
890-1797-1 MSD	PH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 16428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1797-1	PH01	Total/NA	Solid	8015 NM	
890-1797-2	PH01A	Total/NA	Solid	8015 NM	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1797-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029 TASK 05.02

HPLC/IC

Leach Batch: 16090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1797-1	PH01	Soluble	Solid	DI Leach	
890-1797-2	PH01A	Soluble	Solid	DI Leach	
MB 880-16090/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-16090/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-16090/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-9872-A-14-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-9872-A-14-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 16214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1797-1	PH01	Soluble	Solid	300.0	16090
890-1797-2	PH01A	Soluble	Solid	300.0	16090
MB 880-16090/1-A	Method Blank	Soluble	Solid	300.0	16090
LCS 880-16090/2-A	Lab Control Sample	Soluble	Solid	300.0	16090
LCSD 880-16090/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	16090
880-9872-A-14-D MS	Matrix Spike	Soluble	Solid	300.0	16090
880-9872-A-14-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	16090

Lab Chronicle

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

Client Sample ID: PH01

Date Collected: 01/04/22 09:14
Date Received: 01/04/22 15:48

Lab Sample ID: 890-1797-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16093	01/06/22 11:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16114	01/06/22 19:03	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16207	01/07/22 08:42	KL	XEN MID
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16142	01/06/22 12:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16117	01/06/22 16:58	AJ	XEN MID
Soluble	Leach	DI Leach			16090	01/05/22 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	16214	01/06/22 21:43	CH	XEN MID

Client Sample ID: PH01A

Date Collected: 01/04/22 09:20
Date Received: 01/04/22 15:48

Lab Sample ID: 890-1797-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16093	01/06/22 11:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16114	01/06/22 19:30	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16207	01/07/22 08:42	KL	XEN MID
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16142	01/06/22 12:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16117	01/06/22 18:00	AJ	XEN MID
Soluble	Leach	DI Leach			16090	01/05/22 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	16214	01/06/22 22:06	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1797-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029 TASK 05.02

Laboratory: Eurofins Xenco

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

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

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

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

Method Summary

Client: WSP USA Inc. Job ID: 890-1797-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029 TASK 05.02

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1797-1
SDG: 31403236.029 TASK 05.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1797-1	PH01	Solid	01/04/22 09:14	01/04/22 15:48	1
890-1797-2	PH01A	Solid	01/04/22 09:20	01/04/22 15:48	4

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:	Benjamin Belill	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA	Company Name:	XTO Energy
Address:	508 West Stevens Street	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, New Mexico 88220	City, State ZIP:	Carlsbad, New Mexico 88220
Phone:	989-854-0852	Email:	Ben.Belill@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:	PLU 30 BS 105H	Turn Around	
Project Number:	31403236.029 Task 05.02	Routine ☐	
P.O. Number:		Rush: 3 Day	
Sampler's Name:	Payton Benner	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.4/1.2	Thermometer ID	IWM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
PH01	S	01/04/22	9:14	1	1	X	X	X	DISCRETE
PH01A	S	01/04/22	9:20	4	1	X	X	X	DISCRETE

890-1797 Chain of Custody

Work Order Notes

AFE: DD.2017.01969.CAP.CM
nAPP2130054846

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	pbenner	Clue Cup	1-4-21 1548	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1797-1
SDG Number: 31403236.029 TASK 05.02

Login Number: 1797
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Xenco

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: 890-1797-1
SDG Number: 31403236.029 TASK 05.02

Login Number: 1797
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Xenco
List Creation: 01/06/22 11:57 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1798-1
Laboratory Sample Delivery Group: 31403236.029 TASK 05.02
Client Project/Site: PLU 30 BS 105H

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

Attn: Benjamin Belill

Authorized for release by:
1/10/2022 12:08:13 PM

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

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

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

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Laboratory Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1798-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029 TASK 05.02

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*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: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Job ID: 890-1798-1

Laboratory: Eurofins Xenco

Narrative

Job Narrative
890-1798-1

Receipt
The samples were received on 1/4/2022 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA
Method Total_BTEX_GCV: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-16093 and analytical batch 880-16114 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-16142 and analytical batch 880-16117 recovered outside control limits for the following analytes: <AffectedAnalytes>.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-16090 and analytical batch 880-16214 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Client Sample ID: FS01

Lab Sample ID: 890-1798-1
Matrix: Solid
Date Collected: 01/04/22 11:00
Date Received: 01/04/22 15:48
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		01/06/22 11:30	01/06/22 19:57	1
Toluene	<0.00198	U	0.00198		mg/Kg		01/06/22 11:30	01/06/22 19:57	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		01/06/22 11:30	01/06/22 19:57	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		01/06/22 11:30	01/06/22 19:57	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		01/06/22 11:30	01/06/22 19:57	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		01/06/22 11:30	01/06/22 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*193*	*S1+*	*70 - 130*	*01/06/22 11:30*	*01/06/22 19:57*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*01/06/22 11:30*	*01/06/22 19:57*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/07/22 08:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/10/22 12:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/06/22 12:43	01/06/22 18:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		01/06/22 12:43	01/06/22 18:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/06/22 12:43	01/06/22 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*01/06/22 12:43*	*01/06/22 18:21*	*1*
o-Terphenyl	*93*		*70 - 130*	*01/06/22 12:43*	*01/06/22 18:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**556**		4.97		mg/Kg			01/06/22 22:15	1

Client Sample ID: FS02

Lab Sample ID: 890-1798-2
Matrix: Solid
Date Collected: 01/04/22 11:12
Date Received: 01/04/22 15:48
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/06/22 11:30	01/06/22 20:24	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/06/22 11:30	01/06/22 20:24	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/06/22 11:30	01/06/22 20:24	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/06/22 11:30	01/06/22 20:24	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/06/22 11:30	01/06/22 20:24	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/06/22 11:30	01/06/22 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*219*	*S1+*	*70 - 130*	*01/06/22 11:30*	*01/06/22 20:24*	*1*

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Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Client Sample ID: FS02

Lab Sample ID: 890-1798-2
Matrix: Solid
Date Collected: 01/04/22 11:12
Date Received: 01/04/22 15:48
Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*01/06/22 11:30*	*01/06/22 20:24*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/07/22 08:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/10/22 12:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/06/22 12:43	01/06/22 18:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		01/06/22 12:43	01/06/22 18:42	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/06/22 12:43	01/06/22 18:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*79*		*70 - 130*	*01/06/22 12:43*	*01/06/22 18:42*	*1*
o-Terphenyl	*92*		*70 - 130*	*01/06/22 12:43*	*01/06/22 18:42*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1230**		4.95		mg/Kg			01/06/22 22:22	1

Client Sample ID: FS03

Lab Sample ID: 890-1798-3
Matrix: Solid
Date Collected: 01/04/22 11:14
Date Received: 01/04/22 15:48
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/06/22 11:30	01/06/22 20:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/06/22 11:30	01/06/22 20:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/06/22 11:30	01/06/22 20:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/06/22 11:30	01/06/22 20:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/06/22 11:30	01/06/22 20:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/06/22 11:30	01/06/22 20:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*145*	*S1+*	*70 - 130*	*01/06/22 11:30*	*01/06/22 20:51*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*01/06/22 11:30*	*01/06/22 20:51*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/07/22 08:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/10/22 12:40	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Client Sample ID: FS03

Date Collected: 01/04/22 11:14
Date Received: 01/04/22 15:48
Sample Depth: 1

Lab Sample ID: 890-1798-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 19:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0		mg/Kg		01/06/22 12:43	01/06/22 19:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*01/06/22 12:43*	*01/06/22 19:04*	*1*
o-Terphenyl	*97*		*70 - 130*	*01/06/22 12:43*	*01/06/22 19:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**246**		4.95		mg/Kg			01/06/22 22:30	1

Client Sample ID: FS04

Date Collected: 01/04/22 13:20
Date Received: 01/04/22 15:48
Sample Depth: 1

Lab Sample ID: 890-1798-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/06/22 11:30	01/06/22 21:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/06/22 11:30	01/06/22 21:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/06/22 11:30	01/06/22 21:19	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/06/22 11:30	01/06/22 21:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/06/22 11:30	01/06/22 21:19	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/06/22 11:30	01/06/22 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*199*	*S1+*	*70 - 130*	*01/06/22 11:30*	*01/06/22 21:19*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*01/06/22 11:30*	*01/06/22 21:19*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			01/07/22 08:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/10/22 12:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 19:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0		mg/Kg		01/06/22 12:43	01/06/22 19:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*01/06/22 12:43*	*01/06/22 19:25*	*1*
o-Terphenyl	*93*		*70 - 130*	*01/06/22 12:43*	*01/06/22 19:25*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Client Sample ID: FS04
Date Collected: 01/04/22 13:20
Date Received: 01/04/22 15:48
Sample Depth: 1

Lab Sample ID: 890-1798-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	559		5.04		mg/Kg			01/06/22 22:38	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

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)
890-1798-1	FS01	193 S1+	95
890-1798-2	FS02	219 S1+	119
890-1798-3	FS03	145 S1+	79
890-1798-4	FS04	199 S1+	105

Surrogate Legend

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

Method: Total BTEX - Total BTEX Calculation

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB	DFBZ
Lab Sample ID	Client Sample ID		
880-9879-A-1-B MS	Matrix Spike		
880-9879-A-1-C MSD	Matrix Spike Duplicate		
LCS 880-16093/1-A	Lab Control Sample		
LCSD 880-16093/2-A	Lab Control Sample Dup		
MB 880-16093/5-A	Method Blank		

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)
890-1797-A-1-F MS	Matrix Spike	77	83
890-1797-A-1-G MSD	Matrix Spike Duplicate	77	81
890-1798-1	FS01	78	93
890-1798-2	FS02	79	92
890-1798-3	FS03	83	97
890-1798-4	FS04	78	93
LCS 880-16142/2-A	Lab Control Sample	104	107
LCSD 880-16142/3-A	Lab Control Sample Dup	110	119
MB 880-16142/1-A	Method Blank	74	85

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Method: Total BTEX - Total BTEX Calculation

Lab Sample ID: LCS 880-16093/1-A
Matrix: Solid
Analysis Batch: 16114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16093

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

Lab Sample ID: LCSD 880-16093/2-A
Matrix: Solid
Analysis Batch: 16114

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16093

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

Lab Sample ID: 880-9879-A-1-B MS
Matrix: Solid
Analysis Batch: 16114

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 16093

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

Lab Sample ID: 880-9879-A-1-C MSD
Matrix: Solid
Analysis Batch: 16114

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 16093

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

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

Lab Sample ID: MB 880-16142/1-A
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16142

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 15:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 15:37	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/06/22 12:43	01/06/22 15:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130	01/06/22 12:43	01/06/22 15:37	1
o-Terphenyl	85		70 - 130	01/06/22 12:43	01/06/22 15:37	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

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

Lab Sample ID: LCS 880-16142/2-A
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16142

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	773.3		mg/Kg		77	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	895.8		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*107*		*70 - 130*

Lab Sample ID: LCSD 880-16142/3-A
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16142

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	917.7		mg/Kg		92	70 - 130	17	20
Diesel Range Organics (Over C10-C28)			1000	1151	*1	mg/Kg		115	70 - 130	25	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*110*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Lab Sample ID: 890-1797-A-1-F MS
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 16142

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	735.3		mg/Kg		74	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U *1	996	897.9		mg/Kg		87	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*77*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: 890-1797-A-1-G MSD
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 16142

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	766.8		mg/Kg		77	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U *1	999	884.4		mg/Kg		85	70 - 130	2	20

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

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

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

Lab Sample ID: 890-1797-A-1-G MSD
Matrix: Solid
Analysis Batch: 16117

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 16142

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	81		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-16090/1-A
Matrix: Solid
Analysis Batch: 16214

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/06/22 20:32	1

Lab Sample ID: LCS 880-16090/2-A
Matrix: Solid
Analysis Batch: 16214

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	234.1		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-16090/3-A
Matrix: Solid
Analysis Batch: 16214

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	238.8		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 880-9872-A-14-D MS
Matrix: Solid
Analysis Batch: 16214

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	16200	F1	4990	20290	F1	mg/Kg		83	90 - 110		

Lab Sample ID: 880-9872-A-14-E MSD
Matrix: Solid
Analysis Batch: 16214

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	16200	F1	4990	19750	F1	mg/Kg		72	90 - 110	3	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

GC VOA

Prep Batch: 16093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1798-1	FS01	Total/NA	Solid	5035	
890-1798-2	FS02	Total/NA	Solid	5035	
890-1798-3	FS03	Total/NA	Solid	5035	
890-1798-4	FS04	Total/NA	Solid	5035	
MB 880-16093/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16093/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16093/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-9879-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-9879-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 16114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1798-1	FS01	Total/NA	Solid	8021B	16093
890-1798-2	FS02	Total/NA	Solid	8021B	16093
890-1798-3	FS03	Total/NA	Solid	8021B	16093
890-1798-4	FS04	Total/NA	Solid	8021B	16093
MB 880-16093/5-A	Method Blank	Total/NA	Solid	Total BTEX	16093
LCS 880-16093/1-A	Lab Control Sample	Total/NA	Solid	Total BTEX	16093
LCSD 880-16093/2-A	Lab Control Sample Dup	Total/NA	Solid	Total BTEX	16093
880-9879-A-1-B MS	Matrix Spike	Total/NA	Solid	Total BTEX	16093
880-9879-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	Total BTEX	16093

Analysis Batch: 16207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1798-1	FS01	Total/NA	Solid	Total BTEX	
890-1798-2	FS02	Total/NA	Solid	Total BTEX	
890-1798-3	FS03	Total/NA	Solid	Total BTEX	
890-1798-4	FS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 16117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1798-1	FS01	Total/NA	Solid	8015B NM	16142
890-1798-2	FS02	Total/NA	Solid	8015B NM	16142
890-1798-3	FS03	Total/NA	Solid	8015B NM	16142
890-1798-4	FS04	Total/NA	Solid	8015B NM	16142
MB 880-16142/1-A	Method Blank	Total/NA	Solid	8015B NM	16142
LCS 880-16142/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16142
LCSD 880-16142/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16142
890-1797-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	16142
890-1797-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	16142

Prep Batch: 16142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1798-1	FS01	Total/NA	Solid	8015NM Prep	
890-1798-2	FS02	Total/NA	Solid	8015NM Prep	
890-1798-3	FS03	Total/NA	Solid	8015NM Prep	
890-1798-4	FS04	Total/NA	Solid	8015NM Prep	
MB 880-16142/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16142/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1798-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029 TASK 05.02

GC Semi VOA (Continued)

Prep Batch: 16142 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-16142/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1797-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1797-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 16428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1798-1	FS01	Total/NA	Solid	8015 NM	
890-1798-2	FS02	Total/NA	Solid	8015 NM	
890-1798-3	FS03	Total/NA	Solid	8015 NM	
890-1798-4	FS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 16090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1798-1	FS01	Soluble	Solid	DI Leach	
890-1798-2	FS02	Soluble	Solid	DI Leach	
890-1798-3	FS03	Soluble	Solid	DI Leach	
890-1798-4	FS04	Soluble	Solid	DI Leach	
MB 880-16090/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-16090/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-16090/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-9872-A-14-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-9872-A-14-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 16214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1798-1	FS01	Soluble	Solid	300.0	16090
890-1798-2	FS02	Soluble	Solid	300.0	16090
890-1798-3	FS03	Soluble	Solid	300.0	16090
890-1798-4	FS04	Soluble	Solid	300.0	16090
MB 880-16090/1-A	Method Blank	Soluble	Solid	300.0	16090
LCS 880-16090/2-A	Lab Control Sample	Soluble	Solid	300.0	16090
LCSD 880-16090/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	16090
880-9872-A-14-D MS	Matrix Spike	Soluble	Solid	300.0	16090
880-9872-A-14-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	16090

Lab Chronicle

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Client Sample ID: FS01
Date Collected: 01/04/22 11:00
Date Received: 01/04/22 15:48

Lab Sample ID: 890-1798-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16093	01/06/22 11:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16114	01/06/22 19:57	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16207	01/07/22 08:42	KL	XEN MID
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16142	01/06/22 12:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16117	01/06/22 18:21	AJ	XEN MID
Soluble	Leach	DI Leach			16090	01/05/22 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	16214	01/06/22 22:15	CH	XEN MID

Client Sample ID: FS02
Date Collected: 01/04/22 11:12
Date Received: 01/04/22 15:48

Lab Sample ID: 890-1798-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16093	01/06/22 11:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16114	01/06/22 20:24	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16207	01/07/22 08:42	KL	XEN MID
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16142	01/06/22 12:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16117	01/06/22 18:42	AJ	XEN MID
Soluble	Leach	DI Leach			16090	01/05/22 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	16214	01/06/22 22:22	CH	XEN MID

Client Sample ID: FS03
Date Collected: 01/04/22 11:14
Date Received: 01/04/22 15:48

Lab Sample ID: 890-1798-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16093	01/06/22 11:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16114	01/06/22 20:51	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16207	01/07/22 08:42	KL	XEN MID
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16142	01/06/22 12:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16117	01/06/22 19:04	AJ	XEN MID
Soluble	Leach	DI Leach			16090	01/05/22 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	16214	01/06/22 22:30	CH	XEN MID

Client Sample ID: FS04
Date Collected: 01/04/22 13:20
Date Received: 01/04/22 15:48

Lab Sample ID: 890-1798-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16093	01/06/22 11:30	KL	XEN MID
Total/NA	Analysis	8021B		1	16114	01/06/22 21:19	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16207	01/07/22 08:42	KL	XEN MID

Eurofins Xenco

Lab Chronicle

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Client Sample ID: FS04

Date Collected: 01/04/22 13:20
Date Received: 01/04/22 15:48

Lab Sample ID: 890-1798-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16142	01/06/22 12:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16117	01/06/22 19:25	AJ	XEN MID
Soluble	Leach	DI Leach			16090	01/05/22 11:34	CH	XEN MID
Soluble	Analysis	300.0		1	16214	01/06/22 22:38	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1798-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029 TASK 05.02

Laboratory: Eurofins Xenco

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

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

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

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

Method Summary

Client: WSP USA Inc. Job ID: 890-1798-1
Project/Site: PLU 30 BS 105H SDG: 31403236.029 TASK 05.02

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: PLU 30 BS 105H

Job ID: 890-1798-1
SDG: 31403236.029 TASK 05.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1798-1	FS01	Solid	01/04/22 11:00	01/04/22 15:48	1
890-1798-2	FS02	Solid	01/04/22 11:12	01/04/22 15:48	1
890-1798-3	FS03	Solid	01/04/22 11:14	01/04/22 15:48	1
890-1798-4	FS04	Solid	01/04/22 13:20	01/04/22 15:48	1

Chain of Custody

Work Order No: _____

XENCO LABORATORIES

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

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Project Manager:	Benjamin Belill	Bill to: (if different)	Adrian Baker
Company Name:	WSP USA	Company Name:	XTO Energy
Address:	508 West Stevens Street	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, New Mexico 88220	City, State ZIP:	Carlsbad, New Mexico 88220
Phone:	989-854-0852	Email:	Ben.Belill@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:	PLU 30 BS 105H	Turn Around	
Project Number:	31403236.029 Task 05.02	Routine ☐	
P.O. Number:		Rush: 3 Day	
Sampler's Name:	Payton Benner	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	1.2 / 1.2	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 8021)	Chloride (EPA 300.0)	Sample Comments
FS01	S	01/04/22	11:10	1	1	X	X	X	COMPOSITE
FS02	S	01/04/22	11:12	1	1	X	X	X	COMPOSITE
FS03	S	01/04/22	11:14	1	1	X	X	X	COMPOSITE
FS04	S	01/04/22	13:20	1	1	X	X	X	COMPOSITE

890-1798 Chain of Custody

Work Order Notes

AFE: DD.2017.01969.CAP.CM
nAPP2130054846

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 pbenner	Cue Cuy	1-4-21 1548	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1798-1
SDG Number: 31403236.029 TASK 05.02

Login Number: 1798
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Xenco

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: 890-1798-1
SDG Number: 31403236.029 TASK 05.02

Login Number: 1798
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Xenco
List Creation: 01/06/22 11:57 AM

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

ATTACHMENT 5: SDS - FRICTION REDUCER

PFP INDUSTRIES

SAFETY DATA SHEET

Issuing Date 01-Aug-2019 **Revision Date** 01-Aug-2019 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name POLYglide Xcel-200

Other means of identification

Product Code(s) 10497

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Manufacturer Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Warning

Combustible liquid

Appearance Opaque	**Physical state** Liquid	**Odor** Mineral Oil

Precautionary Statements - Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Information
May be harmful in contact with skin
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical name	CAS No	Weight-%	Trade secret
Petroleum distillates, hydrotreated light	64742-47-8	40 - 70	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Opaque
Color	Milky white to yellow
Odor	Mineral Oil
Odor threshold	No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	>= 67 °C / 153 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.97 - 1.03	
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	≥150 mm²/s	
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid Heat, flames and sparks.

Incompatible materials None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral)	5,005.00 mg/kg
ATEmix (dermal)	2,002.00 mg/kg
ATEmix (inhalation-dust/mist)	5.20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum distillates, hydrotreated light 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated light 64742-47-8	-	2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static	-	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3))

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies

PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards**	2	**Flammability**	2	**Instability** 0	**Physical and chemical properties**	-
HMIS	**Health hazards**	2	**Flammability**	2	**Physical hazards** 0	**Personal protection**	X

Issuing Date 01-Aug-2019

Revision Date 01-Aug-2019

Revision Note No information available.

Disclaimer

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End of Safety Data Sheet

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

CONDITIONS

Action 91344

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 91344
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Revised Closure Report Approved. Please implement 19.15.29.13 NMAC when completing P&A.	3/21/2022