

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	nAPP2128544986
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Melodie Sanjari	Contact Telephone 575-988-8753
Contact email msanjari@marathonoil.com	Incident # (assigned by OCD)
Contact mailing address 4111 S. Tidwell Rd., Carlsbad, NM 8220	

Location of Release Source

Latitude 32.21021092

Longitude -104.17061069
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: BLACK RIVER 15 10 STATE COM X #004H	Site Type Oil & Gas Facility
Date Release Discovered: 10/11/2021	API# (if applicable) 30-015-43959

Unit Letter	Section	Township	Range	County
P	15	24S	27E	Eddy

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 45.3	Volume Recovered (bbls) 50 bbl. PW & Rainwater
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A corroded ¾" nipple on the wye strainer resulted in 45.3 bbl. of produced water to be released inside of the lined, secondary containment, 1.14 bbl. of which released to the SLO ROW to the west of the facility. All fluid was recovered throughout the evening and the volume includes a portion of standing fluid within the recirculating pump's secondary containment that's not associated with this incident (vac ticket attached). During a facility inspection, a potential failure in the liner was noted near the point of release. Details will be provided in a remediation plan and submitted to both the NM OCD and SLO.

State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Volume
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes NOR submitted 10/12/2021 and notice provided to SLO.	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Melodie Sanjari</u>	Title: <u>Environmental Professional</u>
Signature: <u>Melodie Sanjari</u>	Date: 10/12/2021
email: <u>msanjari@marathonoil.com</u>	Telephone: <u>575-988-8753</u>
<u>OCD Only</u>	
Received by: <u>Ramona Marcus</u>	Date: <u>10/13/2021</u>

Spill Estimator Tool

fx

		C	D	E	F	G	H	I	
1	Spill Calculation Tool								Marathon
2									
3	Standing Liquid Inputs:							NAPP2128544986	
4		Length (ft.)	Width (ft.)	Avg. Liquid Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil	
5	Rectangle Area #1	145	35	0.75		56.49	56.49		
6	Rectangle Area #2					0.00	0.00		
7	Rectangle Area #3					0.00	0.00		
8	Rectangle Area #4					0.00	0.00		
9	Rectangle Area #5					0.25	0.25		
10	Rectangle Area #6					0.00	0.00		
11	Tank Displacement		1128	0.75		12.56			
12	Tank Displacement					0.00	0.00		
13					Liquid Volume:	44.19			
14									
15									
16	Saturated Soil		Soil Type:	Gravel Loam					
17		Length (ft.)	Width (ft.)	Avg. Saturated Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil	
18	Rectangle Area #1	35	2	1	0%	0.15	0.15		
19	Rectangle Area #2	100	2	1	0%	0.42	0.42		
20	Rectangle Area #3	9	15	1	0%	0.28	0.28		
21	Rectangle Area #4	6	10	1	0%	0.12	0.12		
22	Rectangle Area #5	4	6	1	0%	0.05	0.05		
23	Rectangle Area #6	10	4	1	0%	0.08	0.08		
24	Rectangle Area #7	10	2	1		0.04	0.04		
25	Rectangle Area #8					0.00	0.00		
26					Saturated Volume	1.14			
27									
28	Volume Recovered and not included in Standing Liquid Inputs:					% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil
29									
30									
31							Total Volume (bbls)	Water Volume (bbls)	Oil
32					Total Spill Volume (bbls):	45.33	0.00		
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

Oilfield Services, LLC

Fax (575) 396-6619
 Cell (575) 396-6619
 Email dukeoilfieldllc@gmail.com

Disposal _____

Salt Water _____

Fresh Water _____

DATE: 10/11/2021COMPANY: Marathon oil

RIG: _____

LEASE: Black River 4H

ORDER BY: _____

Description of Service

Hours

Drove from yard at 7:00 pm to Location and work cleaning
 and sucking water from tanks containment.

* Hauled 50 bbls of produce water to disposal and and wash out.

Drove Back to yard 18 Hrs.

Codigo CC# 29503600Company man Keith DziokonskiWork done by: Josef CaroUnit #: 92

Accepted: _____

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

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

CONDITIONS

Action 55437

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 55437
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
marcus	None	10/13/2021

Incident ID	nAPP2128544986
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Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>51-100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

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Oil Conservation Division

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

Printed Name: Melodie Sanjari Title: Environmental ProfessionalSignature: Melodie Sanjari Date: 12/20/2021email: msanjari@marathonoil.com Telephone: 575-988-8753**OCD Only**

Received by: _____ Date: _____

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Remediation Plan

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

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

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

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

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

Printed Name: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari

Date: 12/20/2021

email: msanjari@marathonoil.com

Telephone: 575-988-8753

OCD Only

Received by: _____ Date: _____

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

Signature: _____

Date: _____

Chad Hensley

02/16/2022

×

Chad Hensley

02/16/2022



WSP USA

508 West Stevens Street
Carlsbad, NM 88220
575.887.0101

December 20, 2021

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

**RE: Deferral Request
 Black River 15 10 State Com X #004H
 Incident Number nAPP2128544986
 Eddy County, New Mexico**

To Whom It May Concern:

WSP USA Inc. (WSP), on behalf of Marathon Oil Permian, LLC. (Marathon), is pleased to present the following Deferral Request detailing site assessment, soil sampling, and excavation activities at the Black River 15 10 State Com X #004H (Site) located in Unit P, Section 15, Township 24 South, Range 27 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling and excavation activities was to address impacts to soil following a release of produced water at the Site. Based on field activities, delineation and excavation activities and results of soil sampling events, Marathon is submitting this Deferral Request, describing remediation and delineation activities that have occurred and requesting deferral of final remediation of Incident Number nAPP2128544986 until the equipment in the affected area is removed during other operations, or when the well or facility is plugged or abandoned, whichever comes first.

RELEASE BACKGROUND

On October 11, 2021, a corroded ¾-inch nipple on the wye strainer failed and resulted in the release of approximately 45.3 barrels (bbls) of produced water into the lined, secondary containment and adjacent Right-of-Way (ROW). Approximately 50 bbls of produced water and rainwater were recovered via vacuum truck. Marathon reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Form C-141 on October 12, 2021 and was assigned Incident Number nAPP2128544986.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be between 51 and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted water well with depth to water data is New Mexico Office of the State Engineer (NMOSE) file number



C-01452, located approximately 0.66 miles southwest of the Site. The NMOSE water well has a reported depth to groundwater of 70 feet bgs and a total depth of 95 feet bgs. The referenced well record is included as Attachment 1. While depth to groundwater appears to be between 51 100 feet bgs for the Site, the well location does not meet the NMOCD interpreted guidance of estimation of depth to water.

The closest continuously flowing or significant watercourse to the Site is a stream/river, located approximately 9,034 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, 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

There do not appear to be any sensitive receptors related to the Site; however, there are no water wells within 0.5-mile of the Site and therefore, the follow NMOCD Table 1 Closure Criteria apply:

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

SITE ASSESSMENT AND LINER INSPECTION

On October 14, 2021, WSP personnel visited the Site to conduct site assessment activities and evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP reviewed and verified the Form C-141 incident description (release source and release location) with visual soil impacts and confirmed that the release impacted areas to the north and southwest areas outside containment. WSP visually inspected the lined secondary containment for any signs of holes or tears that would act as a conduit to subsurface soil. The subsequent visual inspection of liner integrity determined the liner was not in working condition. Based on the site assessment and visual observations, delineation activities appeared to be warranted to investigate potential soil impacts related to the produced water release. Photographic documentation of the release and liner assessment is provided in Attachment 2.



INITIAL DELINEATION ACTIVITIES

On October 21, 2021, WSP personnel conducted delineation activities to confirm the presence or absence of impacted soils as a result of the impaired liner. Utilizing a hand auger, WSP installed one delineation soil sample within the breach area (BH01) and areas where fluids escaped outside containment (BH02 and BH03). Delineation activities were directed by field screening soil samples for volatile aromatic hydrocarbons using a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. A total of two soil samples were collected from each of the borehole locations: the sample with the highest observed field screening concentrations (approximately 1 foot bgs) and the greatest depth (ranging from 4 to 7 feet bgs). The delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler initials, 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 following EPA Method 8015M/D; and chloride following EPA Method 300.0. The delineation sample locations were mapped utilizing a handheld GPS unit and are presented on Figure 2. Field screening results and observations for the boreholes were recorded on lithologic/soil sampling logs and are presented in Attachment 3.

CONTINUED DELINEATION AND EXCAVATION ACTIVITIES

During November 17 and 19, 2021, WSP personnel returned to the site to oversee additional delineation activities associated with BH01 to determine chloride impacts to be left in place and additional areas outside of the containment to investigate lithology and confirm lateral delineation through potholes (PH01 through PH06) through the use of a track hoe. Delineation activities were directed by field screening soil samples for volatile aromatic hydrocarbons and chloride. A total of two soil samples were collected from each of the pothole locations: the sample with the highest observed field screening concentrations (ranging from 1 foot to 7.5 bgs) and the greatest depth (approximately 11 feet bgs). The delineation sample locations were mapped utilizing a handheld GPS unit and are presented on Figure 2. Field screening results and observations for the boreholes were recorded on lithologic/soil sampling logs and are presented in Attachment 3.

Utilizing heavy equipment, the southwest impacted area outside containment was excavated to a depth consistent with laboratory analytical data (4.5 feet bgs). Excavation continued laterally until sidewall samples were compliant with the Closure Criteria. Excavation to the north of the containment was restricted to the impacted areas adjacent to the pipelines and would not be able to extend beyond 4 feet bgs; therefore, the area was safely excavated to a depth of approximately 0.5 to 1 foot bgs to remove surface staining via hydrovac and would be included in the deferral estimate. A total of 80 cubic yards was removed during excavation activities and disposed at an R360 disposal facility under Marathon approved manifests.



Following removal of impacted soil, WSP collected 5-point composite soil samples every 200 square feet. The 5-point composite soil samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples SW01 through SW03 and FS01 through FS05 were collected from the southwest excavation; confirmation sample FS06 was collected from the northern excavation to characterize impacts left in place. The excavation sample locations were mapped utilizing a GPS unit and are depicted on Figure 3.

The delineation and excavation soil samples were collected, handled, and analyzed as previously described.

LABORATORY ANALYTICAL RESULTS

Based on laboratory analytical results, the vertical extent of impacted soil does not exceed 7.5 feet bgs inside the containment and 4 feet bgs in the area north of the containment. Laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria in the excavation samples collected from the southwestern excavation. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are provided in Attachment 4.

DEFERRAL REQUEST

An estimated 1,821 cubic yards of impacted soil remain in place beneath the now repaired lined secondary containment, based on a laboratory analytical data of BH01 at 7.5 feet bgs and 25 cubic yards north of the containment based on laboratory analytical data of BH03 at 4 feet bgs. All deferral areas are located on the well pad. The release is delineated laterally to the north by soil samples PH03 and PH06, to the east by soil samples PH01 and PH02, to the south by soil sample PH04 and to the west by soil samples SW02, SW03, PH05 and PH06. The deferral request area is shown on Figure 3.

Marathon requests to complete remediation of residual soil impacts during any major future well pad construction/alteration or final plugging and abandonment, whichever occurs first. WSP and Marathon do not believe deferment will result in imminent risk to human health, the environment, or groundwater. Based on the additional data collected as described in this report, impacts have been fully delineated, and no further soil removal can occur safely at this time. Marathon requests deferral of final remediation for Incident Number nAPP2128544986.

If you have any questions or comments, please do not hesitate to contact Mr. Daniel Moir at (303) 887-2946.



District II
Page 5

Sincerely,

WSP USA Inc.

A handwritten signature in black ink, appearing to read 'Joseph S. Hernandez'.

Joseph S. Hernandez
Associate Consultant, Geologist

A handwritten signature in black ink, appearing to read 'Daniel R. Moir'.

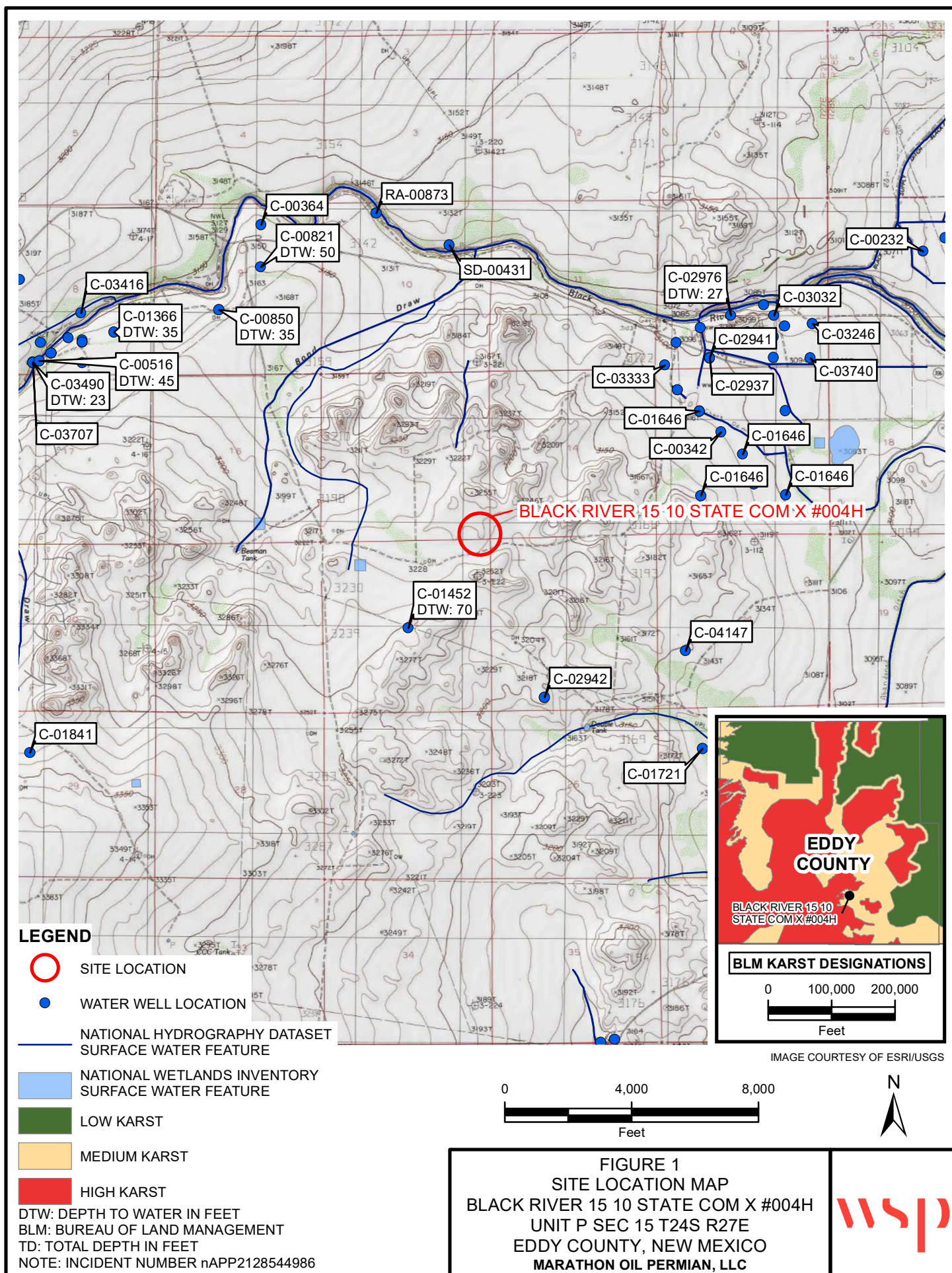
Daniel R. Moir, P.G.
Lead Consultant, Geologist

cc: Melodie Sanjari, Marathon

Attachments:

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

FIGURES



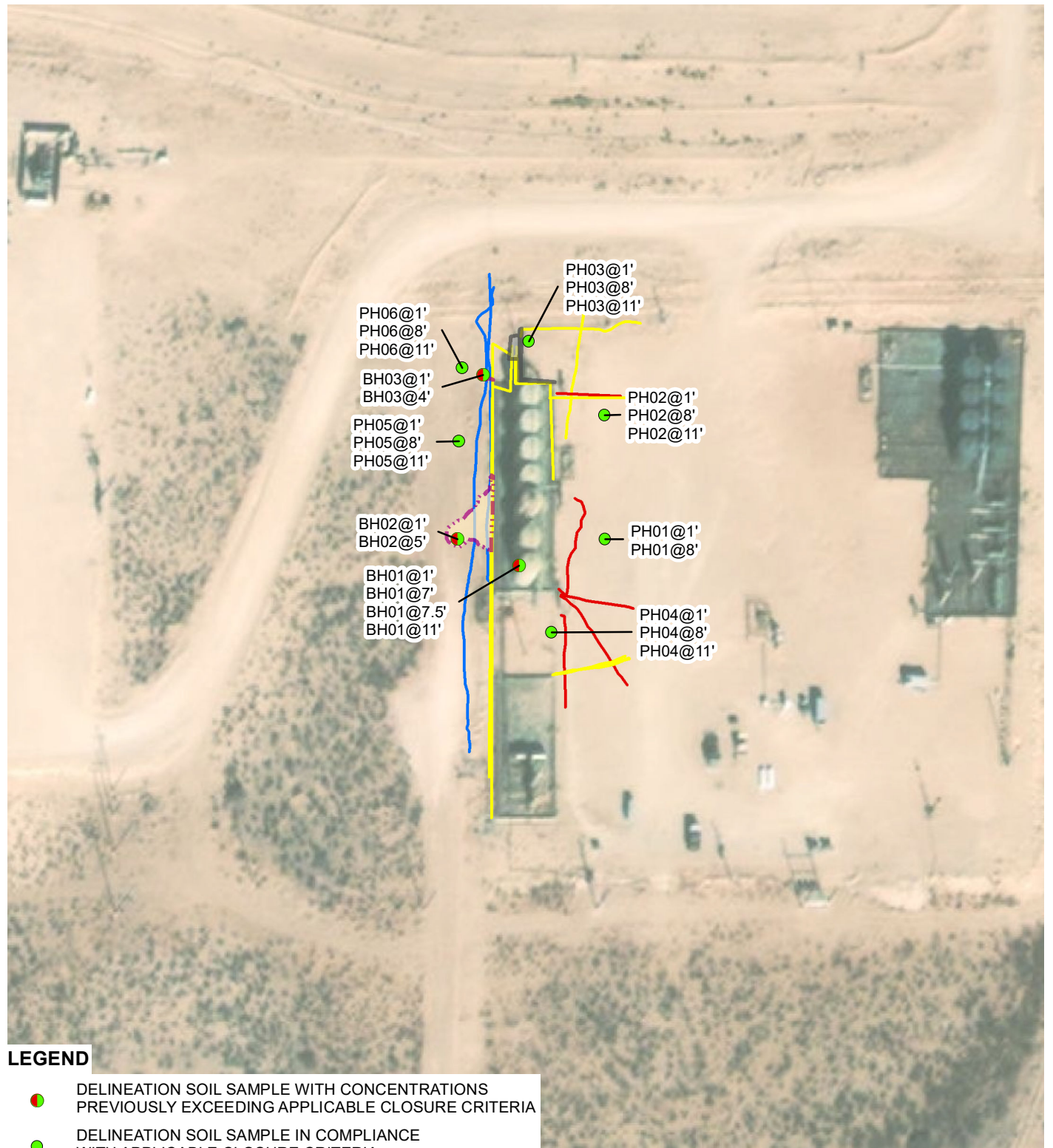


IMAGE COURTESY OF ESRI

LEGEND

- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

— ELECTRIC LINE

— GAS LINE

— WATER LINE

■ INFRASTRUCTURE

■ RELEASE EXTENT

NOTE: INCIDENT NUMBER nAPP2128544986
 SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

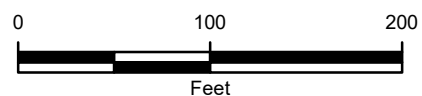
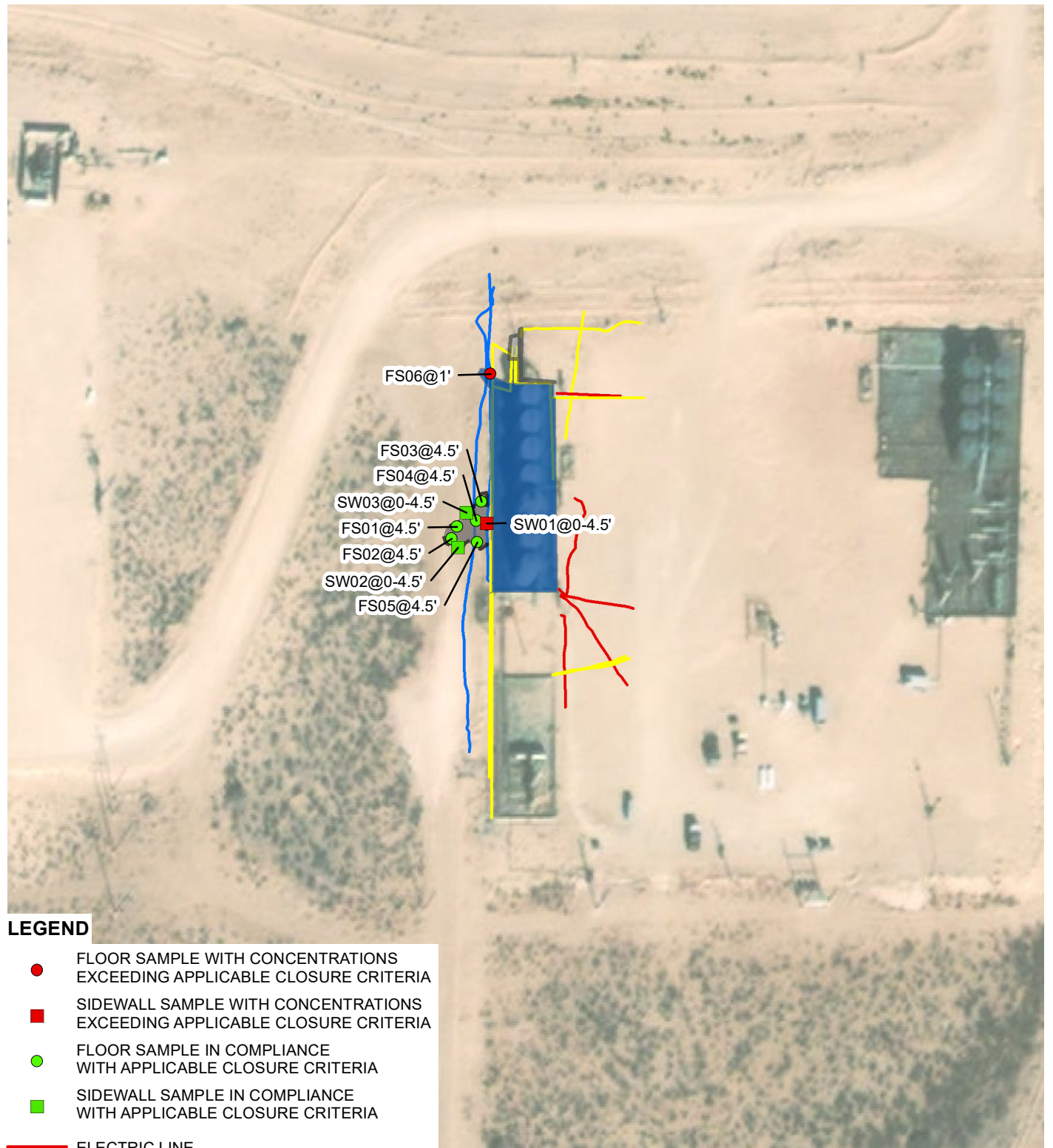


FIGURE 2
 DELINEATION SOIL SAMPLE LOCATIONS
 BLACK RIVER 15 10 STATE COM X #004H
 UNIT P SEC 15 T24S R27E
 EDDY COUNTY, NEW MEXICO
 MARATHON OIL PERMIAN, LLC

**LEGEND**

- FLOOR SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

— ELECTRIC LINE

— GAS LINE

— WATER LINE

■ INFRASTRUCTURE

■ DEFERRAL AREA

■ EXCAVATION EXTENT

NOTE: INCIDENT NUMBER nAPP2128544986
 SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI

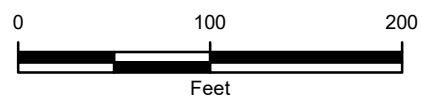


FIGURE 3
 EXCAVATION SOIL SAMPLE LOCATIONS
 BLACK RIVER 15 10 STATE COM X #004H
 UNIT P SEC 15 T24S R27E
 EDDY COUNTY, NEW MEXICO
 MARATHON OIL PERMIAN, LLC

TABLES

Table 1

Soil Analytical Results
Black River 15 10 State Com X #004H
Incident Number nAPP2128544986
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
Delineation Soil Samples										
BH01	10/21/2021	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	9,430
BH01	10/21/2021	7	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	729
BH01	11/17/2021	7.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	540
BH01	11/17/2021	11	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	354
BH02	10/21/2021	1	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	5,580
BH02	10/21/2021	5	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	<49.8	205
BH03	10/21/2021	1	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	4,910
BH03	10/21/2021	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	174
PH01	11/17/2021	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	275
PH01	11/17/2021	8	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	379
PH02	11/19/2021	1	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	44.2
PH02	11/19/2021	8	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	142
PH02	11/19/2021	11	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	43.7
PH03	11/19/2021	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	54.9
PH03	11/19/2021	8	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	74.3
PH03	11/19/2021	11	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	136
PH04	11/19/2021	1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	126
PH04	11/19/2021	8	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	85.5
PH04	11/19/2021	11	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	272

Table 1

Soil Analytical Results
Black River 15 10 State Com X #004H
Incident Number nAPP2128544986
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
PH05	11/19/2021	1	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	56.9
PH05	11/19/2021	8	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	121
PH05	11/19/2021	11	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	38.0
PH06	11/19/2021	1	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	<5.00
PH06	11/19/2021	8	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	48.2
PH06	11/19/2021	11	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	337
Excavation Soil Samples										
FS01	11/18/2021	4.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	19.3
FS02	11/18/2021	4.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	29.4
FS03	11/18/2021	4.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	196
FS04	11/18/2021	4.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	78.7
FS05	11/18/2021	4.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	47.4
SW01	11/18/2021	0 - 4.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	2,350
SW02	11/18/2021	0 - 4.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	20.5
SW03	11/18/2021	0 - 4.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	22.7

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - motor oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code

< - indicates result is less than the stated laboratory method practical quantitation limit

NE - Not Established

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

Greyed data represents samples that were excavated

ATTACHMENT 1: REFERENCED WELL RECORD



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
C	01452				22	24S	27E	577435	3563175*

x

Driller License: 30 **Driller Company:** BARRON, EMMETT**Driller Name:** BARRON, EMMETT**Drill Start Date:** 07/21/1971 **Drill Finish Date:** 07/23/1971 **Plug Date:****Log File Date:** 08/02/1971 **PCW Rcv Date:** **Source:** Shallow**Pump Type:** **Pipe Discharge Size:** **Estimated Yield:****Casing Size:** 7.00 **Depth Well:** 95 feet **Depth Water:** 70 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	60	70	Sandstone/Gravel/Conglomerate

x

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/17/21 9:00 AM

POINT OF DIVERSION SUMMARY

ATTACHMENT 2: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG

Marathon Oil Permian, LLC.	Black River 15 10 State Com X #004H Eddy County, NM	31403152.007
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Photo No.	Date	
1	October 14, 2021	
View of the southwest release area outside containment during the site assessment.		 A photograph showing a dry, sandy area with a white pipe running across it. In the background, there are several large, cylindrical storage tanks and a fence line. The sky is clear and blue.

Photo No.	Date	
2	October 14, 2021	
View of the breached area (BH01) inside containment.		 A close-up photograph of a damaged area, likely a pipe or container, showing a breach. A person's hand is visible in the foreground, pointing towards the damaged area. The background shows a dark, possibly oily, substance.



PHOTOGRAPHIC LOG

Marathon Oil Permian, LLC.	Black River 15 10 State Com X #004H Eddy County, NM	31403152.007
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Photo No.	Date	
3	November 17, 2021	
View of BH01 area during delineation activities.		 A close-up photograph showing a large, curved, metallic structure, likely a wellhead or part of a well casing, with a yellow-painted section. A black pipe or rod is visible, extending from the structure into the ground. The ground is dark and appears to be a mix of soil and rock.


Photo No.	Date	
4	November 17, 2021	
View of the southwest excavation during remediation activities.		 A photograph showing a large, deep excavation site. In the foreground, there is a pile of dark, loose soil. A red plastic safety fence is stretched across the middle ground. In the background, several large, cylindrical storage tanks are visible, along with a white pickup truck parked on a dirt road. The sky is clear and blue.


ATTACHMENT 3: LITHOLOGIC/SOIL SAMPLING LOGS


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		Sample ID: BH01		Date: 11/17/2021				
		Site Name: Black River 15 10 State Com X #004H						
		Incident Number: nAPP2128544986						
		WSP Job Number: 31403152.007						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.210476, -104.171468		Field Screening: Chloride, PID		Hole Diameter: Not Applicable				
				Total Depth: 11 feet				
Comments: Moisture content "M" - Moist; "D" - Dry; BDL - Below Detection Limit of HACH Low Range Chloride Testing Strips (<116 ppm) Chloride testing performed with 1:4 dilution of soil to distilled water, no correction factor included; SAA - Same as Above								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	140	0.1	No	PH01	1	1	SP-SC	brown, dry, poorly-graded SAND (m.) with clay and gravel, low plasticity, low cohesiveness, no odor
D	BDL	0.2	No		2	2		
						3		
D	260	0.3	No		4	4	CCHE	brown, dry, moderately cemented CALICHE, sandy (c.) matrix, no odor
						5		
D	260	0.0	No		6	6	SP	red-brown, dry, poorly-graded SAND (m.), no plasticity, no cohesiveness, no odor
						7		
D	228	0.3	No	PH01	8	8	SP-SM	red-brown, dry, poorly-graded SAND (m.) with silt and gravel, no plasticity, no cohesiveness, no odor
						9		
						10		
D	160	0.1	No		11	11	SP-SM	SAA


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		Sample ID: PH02		Date: 11/19/2021				
		Site Name: Black River 15 10 State Com X #004H						
		Incident Number: nAPP2128544986						
		WSP Job Number: 31403152.007						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.210717, -104.171470		Field Screening: Chloride, PID		Hole Diameter: Not Applicable				
				Total Depth: 11 feet				
Comments: Moisture content "M" - Moist; "D" - Dry; BDL - Below Detection Limit of HACH Low Range Chloride Testing Strips (<116 ppm) Chloride testing performed with 1:4 dilution of soil to distilled water, no correction factor included; SAA - Same as Above								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	116	0.1	No	PH02	1	1	SP-SC	brown, dry, poorly-graded SAND (m.) with clay and gravel, low plasticity, low cohesiveness, no odor
						2		
D	168	0.0	No		3	3		
D	260	0.2	No		4	4	CCHE	brown, dry, moderately cemented CALICHE, sandy (c.) matrix, no odor
						5		
D	260	0.1	No		6	6	SP	red-brown, dry, poorly-graded SAND (m.), no plasticity, no cohesiveness, no odor
						7		
D	140	0.1	No	PH02	8	8	SP-SM	red-brown, dry, poorly-graded SAND (m.) with silt and gravel, no plasticity, no cohesiveness, no odor
						9		
						10		
D	BDL	0.1	No	PH02	11	11	SP-SM	SAA


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		Sample ID: PH03		Date: 11/19/2021				
		Site Name: Black River 15 10 State Com X #004H						
		Incident Number: nAPP2128544986						
		WSP Job Number: 31403152.007						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.210866, -104.171624		Field Screening: Chloride, PID		Hole Diameter: Not Applicable				
				Total Depth: 11 feet				
Comments: Moisture content "M" - Moist; "D" - Dry; BDL - Below Detection Limit of HACH Low Range Chloride Testing Strips (<116 ppm) Chloride testing performed with 1:4 dilution of soil to distilled water, no correction factor included; SAA - Same as Above								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	BDL	0.2	No	PH03	1	1	SP-SC	brown, dry, poorly-graded SAND (m.) with clay and gravel, low plasticity, low cohesiveness, no odor
D	BDL	0.1	No		2	2		
						3		
D	BDL	0.1	No		4	4	CCHE	brown, dry, moderately cemented CALICHE, sandy (c.) matrix, no odor
						5		
D	BDL	0.7	No		6	6	SP	red-brown, dry, poorly-graded SAND (m.), no plasticity, no cohesiveness, no odor
						7		
D	BDL	0.4	No	PH03	8	8	SP-SM	red-brown, dry, poorly-graded SAND (m.) with silt and gravel, no plasticity, no cohesiveness, no odor
						9		
						10		
D	BDL	0.1	No	PH03	11	11	SP-SM	SAA


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID:		Date:	
										11/19/2021	
								Site Name: Black River 15 10 State Com X #004H			
								Incident Number: nAPP2128544986			
WSP Job Number: 31403152.007											
LITHOLOGIC / SOIL SAMPLING LOG											
Lat/Long: 32.210297, -104.171551				Field Screening: Chloride, PID		Hole Diameter: Not Applicable		Total Depth: 11 feet			
Comments: Moisture content "M" - Moist; "D" - Dry; BDL - Below Detection Limit of HACH Low Range Chloride Testing Strips (<116 ppm) Chloride testing performed with 1:4 dilution of soil to distilled water, no correction factor included; SAA - Same as Above											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0					
M	140	1.2	No	PH04	1	1	SP-SC	brown, dry, poorly-graded SAND (m.) with clay and gravel, low plasticity, low cohesiveness, no odor			
D	BDL	0.2	No		2	2					
						3					
M	BDL	0.3	No		4	4	CCHE	brown, dry, moderately cemented CALICHE, sandy (c.) matrix, no odor			
						5					
D	168	1.3	No		6	6	SP	red-brown, dry, poorly-graded SAND (m.), no plasticity, no cohesiveness, no odor			
						7					
D	196	0.0	No	PH04	8	8	SP-SM	red-brown, dry, poorly-graded SAND (m.) with silt and gravel, no plasticity, no cohesiveness, no odor			
						9					
						10					
D	196	0.2	No	PH04	11	11	SP-SM	SAA			

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID:		Date:	
										11/19/2021	
								Site Name: Black River 15 10 State Com X #004H			
								Incident Number: nAPP2128544986			
WSP Job Number: 31403152.007											
LITHOLOGIC / SOIL SAMPLING LOG											
Lat/Long: 32.210667, -104.171802				Field Screening: Chloride, PID		Hole Diameter: Not Applicable		Total Depth: 11 feet			
Comments: Moisture content "M" - Moist; "D" - Dry; BDL - Below Detection Limit of HACH Low Range Chloride Testing Strips (<116 ppm) Chloride testing performed with 1:4 dilution of soil to distilled water, no correction factor included; SAA - Same as Above											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0					
D	BDL	1.4	No	PH05	1	1	SP-SC	brown, dry, poorly-graded SAND (m.) with clay and gravel, low plasticity, low cohesiveness, trace roots, no odor			
D	116	0.4	No		2	2					
						3					
D	168	1.0	No		4	4	CCHE	brown, dry, moderately cemented CALICHE, sandy (c.) matrix, no odor			
						5					
D	332	1.4	No		6	6	SP	red-brown, dry, poorly-graded SAND (m.), no plasticity, no cohesiveness, no odor			
						7					
D	140	0.8	No	PH05	8	8	SP-SM	red-brown, dry, poorly-graded SAND (m.) with silt and gravel, no plasticity, no cohesiveness, no odor			
						9					
						10					
D	BDL	0.2	No	PH05	11	11	SP-SM	SAA			

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		Sample ID:		Date:				
				11/19/2021				
		Site Name: Black River 15 10 State Com X #004H						
		Incident Number: nAPP2128544986						
		WSP Job Number: 31403152.007						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.210809, -104.171793		Field Screening: Chloride, PID		Hole Diameter: Not Applicable				
				Total Depth: 11 feet				
Comments: Moisture content "M" - Moist; "D" - Dry; BDL - Below Detection Limit of HACH Low Range Chloride Testing Strips (<116 ppm) Chloride testing performed with 1:4 dilution of soil to distilled water, no correction factor included; SAA - Same as Above								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	BDL	0.2	No	PH06	1	1	SP-SC	brown, dry, poorly-graded SAND (m.) with clay and gravel, low plasticity, low cohesiveness, trace roots, no odor
D	BDL	0.1	No		2	2		
						3		
D	BDL	0.0	No		4	4	CCHE	brown, dry, moderately cemented CALICHE, sandy (c.) matrix, no odor
						5		
D	BDL	0.2	No		6	6	SP	red-brown, dry, poorly-graded SAND (m.), no plasticity, no cohesiveness, no odor
						7		
D	BDL	0.0	No	PH06	8	8	SP-SM	red-brown, dry, poorly-graded SAND (m.) with silt and gravel, no plasticity, no cohesiveness, no odor
						9		
						10		
D	BDL	0.0	No	PH06	11	11	SP-SM	SAA

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		Sample ID: BH01		Date: 10/21 & 11/17/2021				
		Site Name: Black River 15 10 State Com X #004H						
		Incident Number: nAPP2128544986						
		WSP Job Number: 31403152.007						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.210426, -104.171664		Field Screening: Chloride, PID		Hole Diameter: Not Applicable				
				Total Depth: 11 feet				
Comments: Moisture content "M" - Moist; "D" - Dry; BDL - Below Detection Limit of HACH Low Range Chloride Testing Strips (<116 ppm) Chloride testing performed with 1:4 dilution of soil to distilled water, 40% correction factor included; SAA - Same as Above								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
M	5,258	1.1	No	BH01	1	1	SP-SC	brown, dry, poorly-graded SAND (m.) with clay and gravel, low plasticity, low cohesiveness, no odor
M	11,000	0.6	No		2	2		
M	6,171	2.2	No		3	3		
M	2,901	1.5	No		4	4		
M	4,838	1.1	No		4.5			
						5	CCHE	brown, dry, moderately cemented CALICHE, sandy (c.) matrix, no odor
M	1,786	1.0	No		6	6		
M	403	1.3	No	BH01	7	7		
M	403	1.0	No	BH01	7.5		SP-SM	red-brown, dry, poorly-graded SAND (m.) with silt and gravel, no plasticity, no cohesiveness, no odor
						8		
D	476	0.9	No			9		
						10		
D	308	0.6	No	BH01	11	11	SP-SM	SAA

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH02		Date: 10/21 & 11/17/2021	
								Site Name: Black River 15 10 State Com X #004H			
								Incident Number: nAPP2128544986			
								WSP Job Number: 31403152.007			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ben Belill		Method: Hand Auger	
Lat/Long: 32.210477, -104.171805				Field Screening: Chloride, PID				Hole Diameter: Not Applicable		Total Depth: 5 feet	
Comments: Moisture content "M" - Moist; "D" - Dry; BDL - Below Detection Limit of HACH Low Range Chloride Testing Strips (<116 ppm) Chloride testing performed with 1:4 dilution of soil to distilled water, 40% correction factor included; SAA - Same as Above											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
M	2,413	0.4	No	BH02	1	1	SP-SC	brown, dry, poorly-graded SAND (f.) with clay and gravel, low plasticity, low cohesiveness, trace roots, no odor			
M	2,139	0.4	No		2	2					
M	1,338	0.6	No		3	3					
D	1,260	0.4	No		4	4	CCHE	brown, dry, moderately cemented CALICHE, sandy (c.) matrix, no odor			
D	476	0.3	No	BH02	5	5					
Total Depth											

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH03		Date: 10/21 & 11/17/2021	
								Site Name: Black River 15 10 State Com X #004H			
								Incident Number: nAPP2128544986			
								WSP Job Number: 31403152.007			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ben Belill		Method: Hand Auger	
Lat/Long: 32.210795, -104.171746				Field Screening: Chloride, PID				Hole Diameter: Not Applicable		Total Depth: 4 feet	
Comments: Moisture content "M" - Moist; "D" - Dry; BDL - Below Detection Limit of HACH Low Range Chloride Testing Strips (<116 ppm) Chloride testing performed with 1:4 dilution of soil to distilled water, 40% correction factor included; SAA - Same as Above											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
D	11,273	0.2	No	BH03	1	1	SP-SC	brown, dry, poorly-graded SAND (m.) with clay and gravel, low plasticity, low cohesiveness, trace roots, no odor			
D	1,551	0.4	No		2	2					
D	1,551	0.2	No		3	3					
D	308	0.3	No	BH03	4	4	CCHE	brown, dry, moderately cemented CALICHE, sandy (c.) matrix, no odor			
Total Depth											

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1471-1
Laboratory Sample Delivery Group: 31403152.007
Client Project/Site: Black River 4h
Revision: 1

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

Attn: Kalei Jennings

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

Authorized for release by:
10/27/2021 5:21:58 PM

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

LINKS

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

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

Client: WSP USA Inc.
Project/Site: Black River 4h

Laboratory Job ID: 890-1471-1
SDG: 31403152.007

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Eurofins Xenco, Carlsbad

Case Narrative

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

Job ID: 890-1471-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-1471-1**REVISION

The report being provided is a revision of the original report sent on 10/25/2021. The report (revision 1) is being revised due to Per client email, requesting re homogenize and extract for Chloride.

Report revision history

Receipt

The sample was received on 10/22/2021 9:13 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C

GC VOA

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

GC Semi VOA

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: An incorrect volume of spiking solution was inadvertently added to the laboratory control sample (LCS), matrix spike (MS), AND/OR matrix spike duplicate (MSD) associated with preparation batch 880-10447 and analytical batch 880-10433. Percent recoveries are based on the amount spiked.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 880-10447 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-10607 and 880-10607 and analytical batch 880-10631 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: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

Client Sample ID: BH01A

Lab Sample ID: 890-1471-1

Date Collected: 10/21/21 12:32

Matrix: Solid

Date Received: 10/22/21 09:13

Sample Depth: 7

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/25/21 10:15	10/25/21 14:25	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/25/21 10:15	10/25/21 14:25	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/25/21 10:15	10/25/21 14:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/25/21 10:15	10/25/21 14:25	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/25/21 10:15	10/25/21 14:25	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/25/21 10:15	10/25/21 14:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	10/25/21 10:15	10/25/21 14:25	1
1,4-Difluorobenzene (Surr)	106		70 - 130	10/25/21 10:15	10/25/21 14:25	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/25/21 18:48	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			10/25/21 19:23	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		10/25/21 10:09	10/25/21 13:26	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/25/21 10:09	10/25/21 13:26	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/25/21 10:09	10/25/21 13:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	10/25/21 10:09	10/25/21 13:26	1
o-Terphenyl	107		70 - 130	10/25/21 10:09	10/25/21 13:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	729		5.01	mg/Kg			10/26/21 18:28	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1471-1	BH01A	128	106
890-1471-1 MS	BH01A	107	109
890-1471-1 MSD	BH01A	119	105
LCS 880-10255/1-A	Lab Control Sample	101	110
LCSD 880-10255/2-A	Lab Control Sample Dup	110	111
MB 880-10255/5-A	Method Blank	114	98

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1471-1	BH01A	98	107
890-1471-1 MS	BH01A	110	106
890-1471-1 MSD	BH01A	112	108
LCS 880-10374/2-A	Lab Control Sample	101	102
LCSD 880-10374/3-A	Lab Control Sample Dup	109	113
MB 880-10374/1-A	Method Blank	113	127

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-10255/5-A

Matrix: Solid

Analysis Batch: 10379

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10255

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/25/21 10:15	10/25/21 14:03	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/25/21 10:15	10/25/21 14:03	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/25/21 10:15	10/25/21 14:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/25/21 10:15	10/25/21 14:03	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/25/21 10:15	10/25/21 14:03	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/25/21 10:15	10/25/21 14:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	10/25/21 10:15	10/25/21 14:03	1
1,4-Difluorobenzene (Surr)	98		70 - 130	10/25/21 10:15	10/25/21 14:03	1

Lab Sample ID: LCS 880-10255/1-A

Matrix: Solid

Analysis Batch: 10379

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10255

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09553		mg/Kg		96	70 - 130
Toluene	0.100	0.08488		mg/Kg		85	70 - 130
Ethylbenzene	0.100	0.08280		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	0.200	0.1741		mg/Kg		87	70 - 130
o-Xylene	0.100	0.08500		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: LCSD 880-10255/2-A

Matrix: Solid

Analysis Batch: 10379

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10255

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1082		mg/Kg		108	70 - 130	12	35
Toluene	0.100	0.09762		mg/Kg		98	70 - 130	14	35
Ethylbenzene	0.100	0.09531		mg/Kg		95	70 - 130	14	35
m-Xylene & p-Xylene	0.200	0.2028		mg/Kg		101	70 - 130	15	35
o-Xylene	0.100	0.1007		mg/Kg		101	70 - 130	17	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: 890-1471-1 MS

Matrix: Solid

Analysis Batch: 10379

Client Sample ID: BH01A

Prep Type: Total/NA

Prep Batch: 10255

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.100	0.09219		mg/Kg		92	70 - 130
Toluene	<0.00199	U	0.100	0.08241		mg/Kg		82	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

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

Lab Sample ID: 890-1471-1 MS

Matrix: Solid

Analysis Batch: 10379

Client Sample ID: BH01A

Prep Type: Total/NA

Prep Batch: 10255

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U	0.100	0.07957		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1712		mg/Kg		85	70 - 130
o-Xylene	<0.00199	U	0.100	0.08400		mg/Kg		83	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 890-1471-1 MSD

Matrix: Solid

Analysis Batch: 10379

Client Sample ID: BH01A

Prep Type: Total/NA

Prep Batch: 10255

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00199	U	0.100	0.09892		mg/Kg		99	70 - 130	7	35
Toluene	<0.00199	U	0.100	0.09132		mg/Kg		91	70 - 130	10	35
Ethylbenzene	<0.00199	U	0.100	0.09365		mg/Kg		94	70 - 130	16	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2014		mg/Kg		101	70 - 130	16	35
o-Xylene	<0.00199	U	0.100	0.1010		mg/Kg		101	70 - 130	18	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

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

Lab Sample ID: MB 880-10374/1-A

Matrix: Solid

Analysis Batch: 10361

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10374

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		10/25/21 10:09	10/25/21 12:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/25/21 10:09	10/25/21 12:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/25/21 10:09	10/25/21 12:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130	10/25/21 10:09	10/25/21 12:23	1
o-Terphenyl	127		70 - 130	10/25/21 10:09	10/25/21 12:23	1

Lab Sample ID: LCS 880-10374/2-A

Matrix: Solid

Analysis Batch: 10361

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10374

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	866.4		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1006		mg/Kg		101	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

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

Lab Sample ID: LCS 880-10374/2-A

Matrix: Solid

Analysis Batch: 10361

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10374

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: LCSD 880-10374/3-A

Matrix: Solid

Analysis Batch: 10361

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10374

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	838.2		mg/Kg		84	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	1126		mg/Kg		113	70 - 130	11	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 890-1471-1 MS

Matrix: Solid

Analysis Batch: 10361

Client Sample ID: BH01A

Prep Type: Total/NA

Prep Batch: 10374

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	963.8		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	933.9		mg/Kg		91	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	106		70 - 130

Lab Sample ID: 890-1471-1 MSD

Matrix: Solid

Analysis Batch: 10361

Client Sample ID: BH01A

Prep Type: Total/NA

Prep Batch: 10374

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	1000	1019		mg/Kg		102	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	974.2		mg/Kg		94	70 - 130	4	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	108		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-10447/1-A

Matrix: Solid

Analysis Batch: 10433

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			10/25/21 15:13	1

Lab Sample ID: LCS 880-10447/2-A

Matrix: Solid

Analysis Batch: 10433

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	209.3		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-10447/3-A

Matrix: Solid

Analysis Batch: 10433

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	200	207.3		mg/Kg		104	90 - 110	1	20

Lab Sample ID: 890-1471-1 MS

Matrix: Solid

Analysis Batch: 10433

Client Sample ID: BH01A

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1970	F1	1260	2978	F1	mg/Kg		80	90 - 110

Lab Sample ID: 890-1471-1 MSD

Matrix: Solid

Analysis Batch: 10433

Client Sample ID: BH01A

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1970	F1	1260	2995	F1	mg/Kg		81	90 - 110	1	20

Lab Sample ID: MB 880-10607/1-A

Matrix: Solid

Analysis Batch: 10631

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			10/26/21 15:01	1

Lab Sample ID: LCS 880-10607/2-A

Matrix: Solid

Analysis Batch: 10631

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	215.9		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-10607/3-A

Matrix: Solid

Analysis Batch: 10631

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	200	208.7		mg/Kg		104	90 - 110	3	20

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-1458-A-7-D MS

Matrix: Solid

Analysis Batch: 10631

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	90.4	F1	251	298.0	F1	mg/Kg		83	90 - 110

Lab Sample ID: 890-1458-A-7-E MSD

Matrix: Solid

Analysis Batch: 10631

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	90.4	F1	251	297.8	F1	mg/Kg		83	90 - 110	0	20

Lab Sample ID: MB 880-10760/1-A

Matrix: Solid

Analysis Batch: 10761

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			10/27/21 15:36	1

Lab Sample ID: LCS 880-10760/2-A

Matrix: Solid

Analysis Batch: 10761

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	245.4		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-10760/3-A

Matrix: Solid

Analysis Batch: 10761

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	247.7		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-1478-A-1-M MS

Matrix: Solid

Analysis Batch: 10761

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	63.9		253	321.3		mg/Kg		102	90 - 110

Lab Sample ID: 890-1478-A-1-N MSD

Matrix: Solid

Analysis Batch: 10761

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	63.9		253	316.1		mg/Kg		100	90 - 110	2	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

GC VOA

Prep Batch: 10255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1471-1	BH01A	Total/NA	Solid	5035	
MB 880-10255/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-10255/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-10255/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1471-1 MS	BH01A	Total/NA	Solid	5035	
890-1471-1 MSD	BH01A	Total/NA	Solid	5035	

Analysis Batch: 10379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1471-1	BH01A	Total/NA	Solid	8021B	10255
MB 880-10255/5-A	Method Blank	Total/NA	Solid	8021B	10255
LCS 880-10255/1-A	Lab Control Sample	Total/NA	Solid	8021B	10255
LCSD 880-10255/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	10255
890-1471-1 MS	BH01A	Total/NA	Solid	8021B	10255
890-1471-1 MSD	BH01A	Total/NA	Solid	8021B	10255

Analysis Batch: 10526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1471-1	BH01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 10361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1471-1	BH01A	Total/NA	Solid	8015B NM	10374
MB 880-10374/1-A	Method Blank	Total/NA	Solid	8015B NM	10374
LCS 880-10374/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	10374
LCSD 880-10374/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	10374
890-1471-1 MS	BH01A	Total/NA	Solid	8015B NM	10374
890-1471-1 MSD	BH01A	Total/NA	Solid	8015B NM	10374

Prep Batch: 10374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1471-1	BH01A	Total/NA	Solid	8015NM Prep	
MB 880-10374/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-10374/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-10374/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1471-1 MS	BH01A	Total/NA	Solid	8015NM Prep	
890-1471-1 MSD	BH01A	Total/NA	Solid	8015NM Prep	

Analysis Batch: 10533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1471-1	BH01A	Total/NA	Solid	8015 NM	

HPLC/IC

Analysis Batch: 10433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-10447/1-A	Method Blank	Soluble	Solid	300.0	10447
LCS 880-10447/2-A	Lab Control Sample	Soluble	Solid	300.0	10447
LCSD 880-10447/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	10447
890-1471-1 MS	BH01A	Soluble	Solid	300.0	10447

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

HPLC/IC (Continued)

Analysis Batch: 10433 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1471-1 MSD	BH01A	Soluble	Solid	300.0	10447

Leach Batch: 10447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-10447/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-10447/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-10447/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1471-1 MS	BH01A	Soluble	Solid	DI Leach	
890-1471-1 MSD	BH01A	Soluble	Solid	DI Leach	

Leach Batch: 10607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1471-1	BH01A	Soluble	Solid	DI Leach	
MB 880-10607/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-10607/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-10607/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1458-A-7-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1458-A-7-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 10631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1471-1	BH01A	Soluble	Solid	300.0	10607
MB 880-10607/1-A	Method Blank	Soluble	Solid	300.0	10607
LCS 880-10607/2-A	Lab Control Sample	Soluble	Solid	300.0	10607
LCSD 880-10607/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	10607
890-1458-A-7-D MS	Matrix Spike	Soluble	Solid	300.0	10607
890-1458-A-7-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	10607

Leach Batch: 10760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-10760/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-10760/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-10760/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1478-A-1-M MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1478-A-1-N MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 10761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-10760/1-A	Method Blank	Soluble	Solid	300.0	10760
LCS 880-10760/2-A	Lab Control Sample	Soluble	Solid	300.0	10760
LCSD 880-10760/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	10760
890-1478-A-1-M MS	Matrix Spike	Soluble	Solid	300.0	10760
890-1478-A-1-N MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	10760

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

Client Sample ID: BH01A

Lab Sample ID: 890-1471-1

Date Collected: 10/21/21 12:32

Matrix: Solid

Date Received: 10/22/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	10255	10/25/21 10:15	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10379	10/25/21 14:25	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10526	10/25/21 18:48	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			10533	10/25/21 19:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	10374	10/25/21 10:09	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			10361	10/25/21 13:26	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	10607	10/26/21 09:57	SC	XEN MID
Soluble	Analysis	300.0		1			10631	10/26/21 18:28	CH	XEN MID

Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

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.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007

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

Eurofins Xenco, Carlsbad

Sample Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1471-1
SDG: 31403152.007


Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1471-1	BH01A	Solid	10/21/21 12:32	10/22/21 09:13	7

- 1
- 2
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- 13
- 14



Work Order No:

Page 1 of 1

Project Name:		BLACK RIVER 4H		Turn Around	
Project Number:		8/103157.007		Routine <input type="checkbox"/>	
P.O. Number:		MAP212854498L		Rush: 24HR	
Sampler's Name:		Benjamin Beill		Due Date:	
SAMPLE RECEIPT		Temp Blank:		Yes <input checked="" type="radio"/> No <input type="radio"/>	
Temperature (°C):		5.4 / 5.2		Thermometer ID	
Received intact:		Yes <input checked="" type="radio"/> No <input type="radio"/>		Correction Factor: 10003	
Cooler Custody Seals:		Yes <input type="radio"/> No <input checked="" type="radio"/>		Total Containers: -0.2	
Sample Custody Seals:		Yes <input type="radio"/> No <input checked="" type="radio"/>			
Number of Containers					
EPA 8015)					
EPA 0-8021)					
le (EPA 300.0)					
ANALYSIS REQUEST					
					
890-1471 Chain of Custody					
<div> <div>APL</div> <div>30-015-43959</div> <div>CC:</div> <div>CL2102649</div> </div>					
TAT starts the day received by the lab, if received by 4:30pm					
Work Order Notes					

Total	200.7 / 6010	200.8 / 6020:	8RCRA TCLP / SPLP	Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
<i>Circle Method(s) and Metal(s) to be analyzed</i>			Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time

1	STW	Chae Corp	10-22-21	0913	1677610	29172	
2						4	
3							
4						6	
5							

Revised Date: 05-11-18 Rev. 2018

Eurofins Xenco, Carlsbad

1080 N Canal St

1005 N Canal St.
Carlsbad NM 88220

Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record



Environment Testing

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1471-1
SDG Number: 31403152.007

Login Number: 1471

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: 890-1471-1
SDG Number: 31403152.007

Login Number: 1471

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

List Creation: 10/25/21 08:20 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3/3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1473-1

Laboratory Sample Delivery Group: 31403152.007

Client Project/Site: BLACK RIVER 4H

For:

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

Attn: Kalei Jennings

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

Authorized for release by:
11/1/2021 11:24:04 AM

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

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

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

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Laboratory Job ID: 890-1473-1
SDG: 31403152.007

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Job ID: 890-1473-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1473-1

Receipt

The samples were received on 10/22/2021 9:13 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

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Client Sample Results

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Client Sample ID: BH01

Lab Sample ID: 890-1473-1

Date Collected: 10/21/21 10:30

Matrix: Solid

Date Received: 10/22/21 09:13

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F1	0.00199	mg/Kg		10/28/21 10:38	10/28/21 21:15	1
Toluene	<0.00199	U F2 F1	0.00199	mg/Kg		10/28/21 10:38	10/28/21 21:15	1
Ethylbenzene	<0.00199	U F1	0.00199	mg/Kg		10/28/21 10:38	10/28/21 21:15	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398	mg/Kg		10/28/21 10:38	10/28/21 21:15	1
o-Xylene	<0.00199	U F1	0.00199	mg/Kg		10/28/21 10:38	10/28/21 21:15	1
Xylenes, Total	<0.00398	U F1	0.00398	mg/Kg		10/28/21 10:38	10/28/21 21:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	10/28/21 10:38	10/28/21 21:15	1
1,4-Difluorobenzene (Surr)	98		70 - 130	10/28/21 10:38	10/28/21 21:15	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/29/21 15:37	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			10/27/21 13:36	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		10/28/21 16:48	10/30/21 03:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/28/21 16:48	10/30/21 03:10	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/28/21 16:48	10/30/21 03:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	10/28/21 16:48	10/30/21 03:10	1
o-Terphenyl	113		70 - 130	10/28/21 16:48	10/30/21 03:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9430		49.9	mg/Kg			10/29/21 12:11	10

Client Sample ID: BH02

Lab Sample ID: 890-1473-2

Date Collected: 10/21/21 14:00

Matrix: Solid

Date Received: 10/22/21 09:13

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		10/28/21 10:38	10/28/21 21:36	1
Toluene	<0.00202	U	0.00202	mg/Kg		10/28/21 10:38	10/28/21 21:36	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		10/28/21 10:38	10/28/21 21:36	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		10/28/21 10:38	10/28/21 21:36	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		10/28/21 10:38	10/28/21 21:36	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		10/28/21 10:38	10/28/21 21:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	10/28/21 10:38	10/28/21 21:36	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Client Sample ID: BH02

Lab Sample ID: 890-1473-2

Date Collected: 10/21/21 14:00

Matrix: Solid

Date Received: 10/22/21 09:13

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	102		70 - 130	10/28/21 10:38	10/28/21 21:36	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			10/29/21 15:37	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			10/28/21 16:34	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/28/21 16:48	10/30/21 03:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/28/21 16:48	10/30/21 03:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/28/21 16:48	10/30/21 03:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130			10/28/21 16:48	10/30/21 03:32	1
o-Terphenyl	113		70 - 130			10/28/21 16:48	10/30/21 03:32	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5580		25.2	mg/Kg			10/29/21 12:17	5

Client Sample ID: BH02A

Lab Sample ID: 890-1473-3

Date Collected: 10/21/21 14:29

Matrix: Solid

Date Received: 10/22/21 09:13

Sample Depth: 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 21:56	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 21:56	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 21:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/28/21 10:38	10/28/21 21:56	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 21:56	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/28/21 10:38	10/28/21 21:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	10/28/21 10:38	10/28/21 21:56	1
1,4-Difluorobenzene (Surr)	101		70 - 130	10/28/21 10:38	10/28/21 21:56	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			10/29/21 15:37	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/28/21 16:34	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Client Sample ID: BH02A

Lab Sample ID: 890-1473-3

Date Collected: 10/21/21 14:29

Matrix: Solid

Date Received: 10/22/21 09:13

Sample Depth: 5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		10/28/21 16:48	10/30/21 03:54	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/28/21 16:48	10/30/21 03:54	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/28/21 16:48	10/30/21 03:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130			10/28/21 16:48	10/30/21 03:54	1
o-Terphenyl	112		70 - 130			10/28/21 16:48	10/30/21 03:54	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	205		5.05	mg/Kg			10/29/21 12:23	1

Client Sample ID: BH03

Lab Sample ID: 890-1473-4

Date Collected: 10/21/21 13:20

Matrix: Solid

Date Received: 10/22/21 09:13

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		10/28/21 10:38	10/28/21 22:17	1
Toluene	<0.00198	U	0.00198	mg/Kg		10/28/21 10:38	10/28/21 22:17	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		10/28/21 10:38	10/28/21 22:17	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		10/28/21 10:38	10/28/21 22:17	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		10/28/21 10:38	10/28/21 22:17	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		10/28/21 10:38	10/28/21 22:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			10/28/21 10:38	10/28/21 22:17	1
1,4-Difluorobenzene (Surr)	106		70 - 130			10/28/21 10:38	10/28/21 22:17	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			10/29/21 15:37	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			10/28/21 16:34	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/28/21 16:48	10/30/21 04:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/28/21 16:48	10/30/21 04:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/28/21 16:48	10/30/21 04:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130			10/28/21 16:48	10/30/21 04:15	1
o-Terphenyl	111		70 - 130			10/28/21 16:48	10/30/21 04:15	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Client Sample ID: BH03

Lab Sample ID: 890-1473-4

Date Collected: 10/21/21 13:20

Matrix: Solid

Date Received: 10/22/21 09:13

Sample Depth: 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4910		25.0	mg/Kg			10/29/21 12:29	5

Client Sample ID: BH03A

Lab Sample ID: 890-1473-5

Date Collected: 10/21/21 13:47

Matrix: Solid

Date Received: 10/22/21 09:13

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 22:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 22:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 22:37	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/28/21 10:38	10/28/21 22:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 22:37	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/28/21 10:38	10/28/21 22:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			10/28/21 10:38	10/28/21 22:37	1
1,4-Difluorobenzene (Surr)	105		70 - 130			10/28/21 10:38	10/28/21 22:37	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			10/29/21 15:37	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			10/28/21 16:34	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/28/21 16:48	10/30/21 04:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/28/21 16:48	10/30/21 04:37	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/28/21 16:48	10/30/21 04:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130			10/28/21 16:48	10/30/21 04:37	1
o-Terphenyl	114		70 - 130			10/28/21 16:48	10/30/21 04:37	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	174		4.95	mg/Kg			10/29/21 12:34	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1473-1	BH01	100	98
890-1473-1 MS	BH01	118	86
890-1473-1 MSD	BH01	136 S1+	132 S1+
890-1473-2	BH02	106	102
890-1473-3	BH02A	103	101
890-1473-4	BH03	103	106
890-1473-5	BH03A	103	105
LCS 880-10706/1-A	Lab Control Sample	101	94
LCSD 880-10706/2-A	Lab Control Sample Dup	102	101
MB 880-10446/5-A	Method Blank	114	103
MB 880-10706/5-A	Method Blank	115	101
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1466-A-40-E MS	Matrix Spike	98	96
890-1466-A-40-F MSD	Matrix Spike Duplicate	99	97
890-1473-1	BH01	102	113
890-1473-2	BH02	101	113
890-1473-3	BH02A	100	112
890-1473-4	BH03	100	111
890-1473-5	BH03A	103	114
LCS 880-10876/2-A	Lab Control Sample	98	108
LCSD 880-10876/3-A	Lab Control Sample Dup	88	97
MB 880-10876/1-A	Method Blank	113	131 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-10446/5-A

Matrix: Solid

Analysis Batch: 10683

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10446

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/25/21 14:32	10/28/21 09:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/25/21 14:32	10/28/21 09:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/25/21 14:32	10/28/21 09:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/25/21 14:32	10/28/21 09:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/25/21 14:32	10/28/21 09:51	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/25/21 14:32	10/28/21 09:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	10/25/21 14:32	10/28/21 09:51	1
1,4-Difluorobenzene (Surr)	103		70 - 130	10/25/21 14:32	10/28/21 09:51	1

Lab Sample ID: MB 880-10706/5-A

Matrix: Solid

Analysis Batch: 10683

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10706

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 20:53	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 20:53	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 20:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/28/21 10:38	10/28/21 20:53	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/28/21 10:38	10/28/21 20:53	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/28/21 10:38	10/28/21 20:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	10/28/21 10:38	10/28/21 20:53	1
1,4-Difluorobenzene (Surr)	101		70 - 130	10/28/21 10:38	10/28/21 20:53	1

Lab Sample ID: LCS 880-10706/1-A

Matrix: Solid

Analysis Batch: 10683

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10706

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07409		mg/Kg		74	70 - 130
Toluene	0.100	0.07324		mg/Kg		73	70 - 130
Ethylbenzene	0.100	0.08106		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	0.200	0.1556		mg/Kg		78	70 - 130
o-Xylene	0.100	0.08156		mg/Kg		82	70 - 130

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

Lab Sample ID: LCSD 880-10706/2-A

Matrix: Solid

Analysis Batch: 10683

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10706

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.07695		mg/Kg		77	70 - 130	4	35

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QC Sample Results

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

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

Lab Sample ID: LCSD 880-10706/2-A

Matrix: Solid

Analysis Batch: 10683

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10706

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.07281		mg/Kg		73	70 - 130	1	35
Ethylbenzene	0.100	0.08012		mg/Kg		80	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1549		mg/Kg		77	70 - 130	0	35
o-Xylene	0.100	0.08142		mg/Kg		81	70 - 130	0	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-1473-1 MS

Matrix: Solid

Analysis Batch: 10683

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 10706

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.100	0.05982	F1	mg/Kg		60	70 - 130		
Toluene	<0.00199	U F2 F1	0.100	0.07020		mg/Kg		70	70 - 130		
Ethylbenzene	<0.00199	U F1	0.100	0.07684		mg/Kg		77	70 - 130		
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1517		mg/Kg		76	70 - 130		
o-Xylene	<0.00199	U F1	0.100	0.07651		mg/Kg		77	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: 890-1473-1 MSD

Matrix: Solid

Analysis Batch: 10683

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 10706

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0998	0.06272	F1	mg/Kg		63	70 - 130	5	35
Toluene	<0.00199	U F2 F1	0.0998	0.04675	F2 F1	mg/Kg		47	70 - 130	40	35
Ethylbenzene	<0.00199	U F1	0.0998	0.06485	F1	mg/Kg		65	70 - 130	17	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1310	F1	mg/Kg		66	70 - 130	15	35
o-Xylene	<0.00199	U F1	0.0998	0.06581	F1	mg/Kg		66	70 - 130	15	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130
1,4-Difluorobenzene (Surr)	132	S1+	70 - 130

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

Lab Sample ID: MB 880-10876/1-A

Matrix: Solid

Analysis Batch: 10889

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10876

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		10/28/21 16:48	10/29/21 20:27	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

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

Lab Sample ID: MB 880-10876/1-A

Matrix: Solid

Analysis Batch: 10889

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10876

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/28/21 16:48	10/29/21 20:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/28/21 16:48	10/29/21 20:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130			10/28/21 16:48	10/29/21 20:27	1
o-Terphenyl	131	S1+	70 - 130			10/28/21 16:48	10/29/21 20:27	1

Lab Sample ID: LCS 880-10876/2-A

Matrix: Solid

Analysis Batch: 10889

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 10876

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	824.7		mg/Kg		82	70 - 130
Diesel Range Organics (Over C10-C28)	1000	949.0		mg/Kg		95	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	98		70 - 130				
o-Terphenyl	108		70 - 130				

Lab Sample ID: LCSD 880-10876/3-A

Matrix: Solid

Analysis Batch: 10889

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 10876

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	834.2		mg/Kg		83	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	957.1		mg/Kg		96	70 - 130	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	88		70 - 130						
o-Terphenyl	97		70 - 130						

Lab Sample ID: 890-1466-A-40-E MS

Matrix: Solid

Analysis Batch: 10889

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 10876

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	999.8		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	904.2		mg/Kg		88	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	98		70 - 130						
o-Terphenyl	96		70 - 130						

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

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

Lab Sample ID: 890-1466-A-40-F MSD

Matrix: Solid

Analysis Batch: 10889

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 10876

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	1000	1009		mg/Kg		99	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	925.3		mg/Kg		90	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	99		70 - 130								
o-Terphenyl	97		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-10660/1-A

Matrix: Solid

Analysis Batch: 10799

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			10/29/21 08:58	1

Lab Sample ID: LCS 880-10660/2-A

Matrix: Solid

Analysis Batch: 10799

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

Lab Sample ID: LCSD 880-10660/3-A

Matrix: Solid

Analysis Batch: 10799

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	247.7		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-7518-A-4-F MS

Matrix: Solid

Analysis Batch: 10799

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	182		250	419.3		mg/Kg		95	90 - 110

Lab Sample ID: 880-7518-A-4-G MSD

Matrix: Solid

Analysis Batch: 10799

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	182		250	434.2		mg/Kg		101	90 - 110	3	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

GC VOA

Prep Batch: 10446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-10446/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 10683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1473-1	BH01	Total/NA	Solid	8021B	10706
890-1473-2	BH02	Total/NA	Solid	8021B	10706
890-1473-3	BH02A	Total/NA	Solid	8021B	10706
890-1473-4	BH03	Total/NA	Solid	8021B	10706
890-1473-5	BH03A	Total/NA	Solid	8021B	10706
MB 880-10446/5-A	Method Blank	Total/NA	Solid	8021B	10446
MB 880-10706/5-A	Method Blank	Total/NA	Solid	8021B	10706
LCS 880-10706/1-A	Lab Control Sample	Total/NA	Solid	8021B	10706
LCSD 880-10706/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	10706
890-1473-1 MS	BH01	Total/NA	Solid	8021B	10706
890-1473-1 MSD	BH01	Total/NA	Solid	8021B	10706

Prep Batch: 10706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1473-1	BH01	Total/NA	Solid	5035	
890-1473-2	BH02	Total/NA	Solid	5035	
890-1473-3	BH02A	Total/NA	Solid	5035	
890-1473-4	BH03	Total/NA	Solid	5035	
890-1473-5	BH03A	Total/NA	Solid	5035	
MB 880-10706/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-10706/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-10706/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1473-1 MS	BH01	Total/NA	Solid	5035	
890-1473-1 MSD	BH01	Total/NA	Solid	5035	

Analysis Batch: 10986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1473-1	BH01	Total/NA	Solid	Total BTEX	
890-1473-2	BH02	Total/NA	Solid	Total BTEX	
890-1473-3	BH02A	Total/NA	Solid	Total BTEX	
890-1473-4	BH03	Total/NA	Solid	Total BTEX	
890-1473-5	BH03A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 10676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1473-1	BH01	Total/NA	Solid	8015 NM	

Analysis Batch: 10872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1473-2	BH02	Total/NA	Solid	8015 NM	
890-1473-3	BH02A	Total/NA	Solid	8015 NM	
890-1473-4	BH03	Total/NA	Solid	8015 NM	
890-1473-5	BH03A	Total/NA	Solid	8015 NM	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

GC Semi VOA

Prep Batch: 10876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1473-1	BH01	Total/NA	Solid	8015NM Prep	
890-1473-2	BH02	Total/NA	Solid	8015NM Prep	
890-1473-3	BH02A	Total/NA	Solid	8015NM Prep	
890-1473-4	BH03	Total/NA	Solid	8015NM Prep	
890-1473-5	BH03A	Total/NA	Solid	8015NM Prep	
MB 880-10876/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-10876/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-10876/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1466-A-40-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1466-A-40-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 10889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1473-1	BH01	Total/NA	Solid	8015B NM	10876
890-1473-2	BH02	Total/NA	Solid	8015B NM	10876
890-1473-3	BH02A	Total/NA	Solid	8015B NM	10876
890-1473-4	BH03	Total/NA	Solid	8015B NM	10876
890-1473-5	BH03A	Total/NA	Solid	8015B NM	10876
MB 880-10876/1-A	Method Blank	Total/NA	Solid	8015B NM	10876
LCS 880-10876/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	10876
LCSD 880-10876/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	10876
890-1466-A-40-E MS	Matrix Spike	Total/NA	Solid	8015B NM	10876
890-1466-A-40-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	10876

HPLC/IC

Leach Batch: 10660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1473-1	BH01	Soluble	Solid	DI Leach	
890-1473-2	BH02	Soluble	Solid	DI Leach	
890-1473-3	BH02A	Soluble	Solid	DI Leach	
890-1473-4	BH03	Soluble	Solid	DI Leach	
890-1473-5	BH03A	Soluble	Solid	DI Leach	
MB 880-10660/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-10660/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-10660/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-7518-A-4-F MS	Matrix Spike	Soluble	Solid	DI Leach	
880-7518-A-4-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 10799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1473-1	BH01	Soluble	Solid	300.0	10660
890-1473-2	BH02	Soluble	Solid	300.0	10660
890-1473-3	BH02A	Soluble	Solid	300.0	10660
890-1473-4	BH03	Soluble	Solid	300.0	10660
890-1473-5	BH03A	Soluble	Solid	300.0	10660
MB 880-10660/1-A	Method Blank	Soluble	Solid	300.0	10660
LCS 880-10660/2-A	Lab Control Sample	Soluble	Solid	300.0	10660
LCSD 880-10660/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	10660
880-7518-A-4-F MS	Matrix Spike	Soluble	Solid	300.0	10660
880-7518-A-4-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	10660

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Client Sample ID: BH01

Lab Sample ID: 890-1473-1

Date Collected: 10/21/21 10:30

Matrix: Solid

Date Received: 10/22/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	10706	10/28/21 10:38	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10683	10/28/21 21:15	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10986	10/29/21 15:37	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			10676	10/27/21 13:36	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	10876	10/28/21 16:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10889	10/30/21 03:10	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	10660	10/26/21 17:10	CA	XEN MID
Soluble	Analysis	300.0		10			10799	10/29/21 12:11	CH	XEN MID

Client Sample ID: BH02

Lab Sample ID: 890-1473-2

Date Collected: 10/21/21 14:00

Matrix: Solid

Date Received: 10/22/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	10706	10/28/21 10:38	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10683	10/28/21 21:36	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10986	10/29/21 15:37	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			10872	10/28/21 16:34	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	10876	10/28/21 16:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10889	10/30/21 03:32	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	10660	10/26/21 17:10	CA	XEN MID
Soluble	Analysis	300.0		5			10799	10/29/21 12:17	CH	XEN MID

Client Sample ID: BH02A

Lab Sample ID: 890-1473-3

Date Collected: 10/21/21 14:29

Matrix: Solid

Date Received: 10/22/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	10706	10/28/21 10:38	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10683	10/28/21 21:56	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10986	10/29/21 15:37	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			10872	10/28/21 16:34	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	10876	10/28/21 16:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10889	10/30/21 03:54	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	10660	10/26/21 17:10	CA	XEN MID
Soluble	Analysis	300.0		1			10799	10/29/21 12:23	CH	XEN MID

Client Sample ID: BH03

Lab Sample ID: 890-1473-4

Date Collected: 10/21/21 13:20

Matrix: Solid

Date Received: 10/22/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	10706	10/28/21 10:38	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10683	10/28/21 22:17	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10986	10/29/21 15:37	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Client Sample ID: BH03

Lab Sample ID: 890-1473-4

Date Collected: 10/21/21 13:20

Matrix: Solid

Date Received: 10/22/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			10872	10/28/21 16:34	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	10876	10/28/21 16:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10889	10/30/21 04:15	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	10660	10/26/21 17:10	CA	XEN MID
Soluble	Analysis	300.0		5			10799	10/29/21 12:29	CH	XEN MID

Client Sample ID: BH03A

Lab Sample ID: 890-1473-5

Date Collected: 10/21/21 13:47

Matrix: Solid

Date Received: 10/22/21 09:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	10706	10/28/21 10:38	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	10683	10/28/21 22:37	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			10986	10/29/21 15:37	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			10872	10/28/21 16:34	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	10876	10/28/21 16:48	DM	XEN MID
Total/NA	Analysis	8015B NM		1			10889	10/30/21 04:37	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	10660	10/26/21 17:10	CA	XEN MID
Soluble	Analysis	300.0		1			10799	10/29/21 12:34	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

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.
Project/Site: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

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: BLACK RIVER 4H

Job ID: 890-1473-1
SDG: 31403152.007

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1473-1	BH01	Solid	10/21/21 10:30	10/22/21 09:13	1
890-1473-2	BH02	Solid	10/21/21 14:00	10/22/21 09:13	1
890-1473-3	BH02A	Solid	10/21/21 14:29	10/22/21 09:13	5
890-1473-4	BH03	Solid	10/21/21 13:20	10/22/21 09:13	1
890-1473-5	BH03A	Solid	10/21/21 13:47	10/22/21 09:13	4



Chain of Custody

Work Order No: _____

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

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Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Joseph Hernandez
Company Name:	WSP	Company Name:	WSP
Address:	3300 North A Street	Address:	3300 North A Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, TX 79705
Phone:	281.702.2329	Email:	ben.beill@wsp.com

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

Project Name:	BLACK RIVER 4H	Turn Around	<input checked="" type="checkbox"/>
Project Number:	31403152,007	Routine	<input checked="" type="checkbox"/>
P.O. Number:	44PP2128544986	Rush:	
Sampler's Name:	Benjamin Beill	Due Date:	

SAMPLE RECEIPT Temperature (°C): 6.4/5.2 Received Intact: Yes No Cooler Custody Seals: Yes No Sample Custody Seals: Yes No	Temp Blank: Yes No Wet Ice: Yes No Thermometer ID: 70W-003 Correction Factor: -0.2 Total Containers:
--	--

ANALYSIS REQUEST		Work Order Notes
Number of Containers TPH (EPA 8015) BTEX (EPA 0-8021) Chloride (EPA 300.0)		890-1473 Chain of Custody 30-015-413959 CC: CL21.02649 TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)	Sample Comments
SHD1	5	10/21/21	1030	1'	1	X	X	X	
SHD2			1100	1'					
SHD2.4			1129	5'					
SHD3			1320	1'					
SHD3A			1347	4'					

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		10/22/21 0913			10/22/21 0912

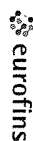
Eurofins Xenco, Carlsbad

1089 N Canal St

Carlsbad NM 88220

Phone 575-988-3199 Fax 575-988-3199

Chain of Custody Record



Environment Testing America

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1473-1

SDG Number: 31403152.007

Login Number: 1473

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: 890-1473-1

SDG Number: 31403152.007

Login Number: 1473

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

List Creation: 10/25/21 08:20 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3/3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1592-1

Laboratory Sample Delivery Group: Eddy County
Client Project/Site: Black River 4H

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
11/23/2021 5:57:38 PM

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

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

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

Client: WSP USA Inc.
Project/Site: Black River 4H

Laboratory Job ID: 890-1592-1
SDG: Eddy County

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

Job ID: 890-1592-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-1592-1****Receipt**

The sample was received on 11/18/2021 11:37 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-12848 and analytical batch 880-12855 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD_NM: An incorrect volume of surrogate spiking solution was inadvertently added the following samples: (LCS 880-12848/2-A) and (LCSD 880-12848/3-A). Percent recoveries are based on the amount spiked.

Method 8015MOD_NM: The spike amount in the system for the MS/MSD is inadvertently doubled. The surrogate recovery for these samples is acceptable based on the actual spike amounts which should be 100 ppm and 50 ppm respectively.(890-1608-A-5-F MS) and (890-1608-A-5-F MSD)

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: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

Client Sample ID: BH01

Lab Sample ID: 890-1592-1

Date Collected: 11/17/21 15:00

Matrix: Solid

Date Received: 11/18/21 11:37

Sample Depth: 11 - GRAB

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg	-	11/23/21 08:30	11/23/21 15:06	1
Toluene	<0.00199	U	0.00199	mg/Kg	-	11/23/21 08:30	11/23/21 15:06	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg	-	11/23/21 08:30	11/23/21 15:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg	-	11/23/21 08:30	11/23/21 15:06	1
o-Xylene	<0.00199	U	0.00199	mg/Kg	-	11/23/21 08:30	11/23/21 15:06	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg	-	11/23/21 08:30	11/23/21 15:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	11/23/21 08:30	11/23/21 14:45	1
4-Bromofluorobenzene (Surr)	120		70 - 130	11/23/21 08:30	11/23/21 15:06	1
1,4-Difluorobenzene (Surr)	102		70 - 130	11/23/21 08:30	11/23/21 14:45	1
1,4-Difluorobenzene (Surr)	97		70 - 130	11/23/21 08:30	11/23/21 15:06	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg	-		11/22/21 13:36	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	-		11/22/21 13:12	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg	-	11/21/21 12:42	11/22/21 14:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg	-	11/21/21 12:42	11/22/21 14:40	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg	-	11/21/21 12:42	11/22/21 14:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	64	S1-	70 - 130			11/21/21 12:42	11/22/21 14:40	1
o-Terphenyl	64	S1-	70 - 130			11/21/21 12:42	11/22/21 14:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	354		25.0	mg/Kg	-		11/22/21 12:44	5

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-8571-A-1-F MS	Matrix Spike	116	98
880-8571-A-1-G MSD	Matrix Spike Duplicate	117	101
890-1592-1	BH01	113	102
890-1592-1	BH01	120	97
LCS 880-12919/1-A	Lab Control Sample	112	99
LCSD 880-12919/2-A	Lab Control Sample Dup	106	95
MB 880-12919/5-A	Method Blank	121	95
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1592-1	BH01	64 S1-	64 S1-
890-1608-A-5-F MS	Matrix Spike	59 S1-	50 S1-
890-1608-A-5-F MSD	Matrix Spike Duplicate	60 S1-	58 S1-
LCS 880-12848/2-A	Lab Control Sample	297 S1+	281 S1+
LCSD 880-12848/3-A	Lab Control Sample Dup	299 S1+	277 S1+
MB 880-12848/1-A	Method Blank	128	130
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-12919/5-A

Matrix: Solid

Analysis Batch: 13000

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12919

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:30	11/23/21 11:33	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:30	11/23/21 11:33	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:30	11/23/21 11:33	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/23/21 08:30	11/23/21 11:33	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:30	11/23/21 11:33	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/23/21 08:30	11/23/21 11:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	11/23/21 08:30	11/23/21 11:33	1
1,4-Difluorobenzene (Surr)	95		70 - 130	11/23/21 08:30	11/23/21 11:33	1

Lab Sample ID: LCS 880-12919/1-A

Matrix: Solid

Analysis Batch: 13000

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12919

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08665		mg/Kg		87	70 - 130
Toluene	0.100	0.08939		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.08923		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1778		mg/Kg		89	70 - 130
o-Xylene	0.100	0.08985		mg/Kg		90	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-12919/2-A

Matrix: Solid

Analysis Batch: 13000

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12919

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.07779		mg/Kg		78	70 - 130	11	35
Toluene	0.100	0.08279		mg/Kg		83	70 - 130	8	35
Ethylbenzene	0.100	0.08447		mg/Kg		84	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1618		mg/Kg		81	70 - 130	9	35
o-Xylene	0.100	0.08066		mg/Kg		81	70 - 130	11	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 880-8571-A-1-F MS

Matrix: Solid

Analysis Batch: 13000

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12919

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.100	0.08913		mg/Kg		89	70 - 130
Toluene	<0.00199	U	0.100	0.09511		mg/Kg		94	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

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

Lab Sample ID: 880-8571-A-1-F MS

Matrix: Solid

Analysis Batch: 13000

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12919

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U	0.100	0.08993		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1726		mg/Kg		85	70 - 130
o-Xylene	<0.00199	U	0.100	0.08478		mg/Kg		84	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 880-8571-A-1-G MSD

Matrix: Solid

Analysis Batch: 13000

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12919

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.07947		mg/Kg		79	70 - 130	11	35
Toluene	<0.00199	U	0.101	0.08328		mg/Kg		82	70 - 130	13	35
Ethylbenzene	<0.00199	U	0.101	0.08478		mg/Kg		84	70 - 130	6	35
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1669		mg/Kg		82	70 - 130	3	35
o-Xylene	<0.00199	U	0.101	0.08092		mg/Kg		80	70 - 130	5	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

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

Lab Sample ID: MB 880-12848/1-A

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12848

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		11/21/21 12:42	11/22/21 10:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/21/21 12:42	11/22/21 10:19	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/21/21 12:42	11/22/21 10:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130	11/21/21 12:42	11/22/21 10:19	1
o-Terphenyl	130		70 - 130	11/21/21 12:42	11/22/21 10:19	1

Lab Sample ID: LCS 880-12848/2-A

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1500	1122		mg/Kg		75	70 - 130
Diesel Range Organics (Over C10-C28)	1500	900.0	*	mg/Kg		60	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

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

Lab Sample ID: LCS 880-12848/2-A

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12848

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	297	S1+	70 - 130
o-Terphenyl	281	S1+	70 - 130

Lab Sample ID: LCSD 880-12848/3-A

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12848

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1500	1149		mg/Kg		77	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1500	889.2	*-	mg/Kg		59	70 - 130	1	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	299	S1+	70 - 130
o-Terphenyl	277	S1+	70 - 130

Lab Sample ID: 890-1608-A-5-F MS

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12848

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 F2	499	1262	F1	mg/Kg		246	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1 *- F2	499	1122	F1	mg/Kg		220	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	59	S1-	70 - 130
o-Terphenyl	50	S1-	70 - 130

Lab Sample ID: 890-1608-A-5-F MSD

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12848

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 F2	499	396.3	F2	mg/Kg		73	70 - 130	104	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1 *- F2	499	78.61	F1 F2	mg/Kg		10	70 - 130	174	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	60	S1-	70 - 130
o-Terphenyl	58	S1-	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-12495/1-A

Matrix: Solid

Analysis Batch: 12947

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			11/22/21 09:10	1

Lab Sample ID: LCS 880-12495/2-A

Matrix: Solid

Analysis Batch: 12947

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

Lab Sample ID: LCSD 880-12495/3-A

Matrix: Solid

Analysis Batch: 12947

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	259.4		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 880-8306-A-1-H MS

Matrix: Solid

Analysis Batch: 12947

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	2680		1240	3857		mg/Kg		95	90 - 110

Lab Sample ID: 880-8306-A-1-I MSD

Matrix: Solid

Analysis Batch: 12947

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	2680		1240	3850		mg/Kg		95	90 - 110	0	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

GC VOA

Prep Batch: 12919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1592-1	BH01	Total/NA	Solid	5035	
MB 880-12919/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-12919/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-12919/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-8571-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
880-8571-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 12945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1592-1	BH01	Total/NA	Solid	Total BTEX	

Analysis Batch: 13000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1592-1	BH01	Total/NA	Solid	8021B	12919
890-1592-1	BH01	Total/NA	Solid	8021B	12919
MB 880-12919/5-A	Method Blank	Total/NA	Solid	8021B	12919
LCS 880-12919/1-A	Lab Control Sample	Total/NA	Solid	8021B	12919
LCSD 880-12919/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	12919
880-8571-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	12919
880-8571-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	12919

GC Semi VOA

Analysis Batch: 12781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1592-1	BH01	Total/NA	Solid	8015 NM	

Prep Batch: 12848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1592-1	BH01	Total/NA	Solid	8015NM Prep	
MB 880-12848/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-12848/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-12848/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1608-A-5-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1608-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 12855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1592-1	BH01	Total/NA	Solid	8015B NM	12848
MB 880-12848/1-A	Method Blank	Total/NA	Solid	8015B NM	12848
LCS 880-12848/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	12848
LCSD 880-12848/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	12848
890-1608-A-5-F MS	Matrix Spike	Total/NA	Solid	8015B NM	12848
890-1608-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	12848

HPLC/IC

Leach Batch: 12495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1592-1	BH01	Soluble	Solid	DI Leach	
MB 880-12495/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12495/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

HPLC/IC (Continued)

Leach Batch: 12495 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-12495/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-8306-A-1-H MS	Matrix Spike	Soluble	Solid	DI Leach	
880-8306-A-1-I MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 12947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1592-1	BH01	Soluble	Solid	300.0	12495
MB 880-12495/1-A	Method Blank	Soluble	Solid	300.0	12495
LCS 880-12495/2-A	Lab Control Sample	Soluble	Solid	300.0	12495
LCSD 880-12495/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12495
880-8306-A-1-H MS	Matrix Spike	Soluble	Solid	300.0	12495
880-8306-A-1-I MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12495

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

Client Sample ID: BH01
Date Collected: 11/17/21 15:00
Date Received: 11/18/21 11:37

Lab Sample ID: 890-1592-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	12919	11/23/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13000	11/23/21 14:45	KL	XEN MID
Total/NA	Prep	5035			5.02 g	5 mL	12919	11/23/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13000	11/23/21 15:06	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 13:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/22/21 13:12	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	12848	11/21/21 12:42	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			12855	11/22/21 14:40	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	12495	11/22/21 08:08	CA	XEN MID
Soluble	Analysis	300.0		5			12947	11/22/21 12:44	CH	XEN MID

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

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: Black River 4H

Job ID: 890-1592-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1592-1	BH01	Solid	11/17/21 15:00	11/18/21 11:37	11 - GRAB

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



Environment Testing

Xenco

Chain of Custody

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

Work Order No: _____

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Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	
Company Name:	WSP	Company Name:	
Address:	3388 N A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(817) 782-2329	Email:	joe.hernandez@wsp.com

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

Project Name:	Black River 4H	Turn Around	
Project Number:	34003152.003	<input type="checkbox"/> Routine <input checked="" type="checkbox"/> Rush	
Project Location:	Eddy County	Due Date:	24 Hr
Sampler's Name:	Elliot Lee	TAT starts the day received by the lab, if received by 4:30pm	
P.O. #:	CC: CL. J. 01.02.019		
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Thermometer ID:	NM-001
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Correction Factor:	-0.2
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Temperature Reading:	1.4/1.2
Total Containers:		Corrected Temperature:	



890-1592 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Preservative Codes	Sample Comments
BHP1	S	11/17/21	15:00	11'	Grab	1	TPH (EPA 8151 Mod) BTEX (EPA 821 B) Chloride (EPA 821 B)	None: NO DI Water: H ₂ O Cool: Cool MeOH: Me HCL: HC HNO ₃ : HN H ₂ SO ₄ : H ₂ H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₅ : NASO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC	Incident # NAP2108544986 Task #2

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	11/18/21 11:37	<i>[Signature]</i>	<i>[Signature]</i>	11/18/21 11:37

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1592-1

SDG Number: Eddy County

Login Number: 1592

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: 890-1592-1

SDG Number: Eddy County

Login Number: 1592

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

List Creation: 11/22/21 08:17 AM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1593-1

Laboratory Sample Delivery Group: Eddy County
Client Project/Site: Black River 4H
Revision: 1

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
11/22/2021 3:58:05 PM

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

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

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

Client: WSP USA Inc.
Project/Site: Black River 4H

Laboratory Job ID: 890-1593-1
SDG: Eddy County

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Eurofins Xenco, Carlsbad

Case Narrative

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

Job ID: 890-1593-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-1593-1

REVISION

The report being provided is a revision of the original report sent on 11/19/2021. The report (revision 1) is being revised due to Per client email, took 11' sample off HOLD also requesting re run on chloride.

Report revision history

Receipt

The sample was received on 11/18/2021 11:37 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-12716 and analytical batch 880-12735 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

Client Sample ID: BH01

Lab Sample ID: 890-1593-1

Date Collected: 11/17/21 13:30

Matrix: Solid

Date Received: 11/18/21 11:37

Sample Depth: 7.5 - GRAB

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/19/21 09:45	11/19/21 12:18	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/19/21 09:45	11/19/21 12:18	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/19/21 09:45	11/19/21 12:18	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/19/21 09:45	11/19/21 12:18	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/19/21 09:45	11/19/21 12:18	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/19/21 09:45	11/19/21 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	11/19/21 09:45	11/19/21 12:18	1
1,4-Difluorobenzene (Surr)	100		70 - 130	11/19/21 09:45	11/19/21 12:18	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			11/19/21 13:44	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			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	50.0	mg/Kg		11/19/21 09:12	11/19/21 13:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/19/21 09:12	11/19/21 13:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/19/21 09:12	11/19/21 13:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	11/19/21 09:12	11/19/21 13:40	1
o-Terphenyl	126		70 - 130	11/19/21 09:12	11/19/21 13:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	540		5.00	mg/Kg			11/22/21 12:51	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1593-1	BH01	95	100
890-1593-1 MS	BH01	100	90
890-1593-1 MSD	BH01	99	94
LCS 880-12636/1-A	Lab Control Sample	96	89
LCSD 880-12636/2-A	Lab Control Sample Dup	95	94
MB 880-12636/5-A	Method Blank	111	98

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1593-1	BH01	102	126
890-1593-1 MS	BH01	104	110
890-1593-1 MSD	BH01	97	97
LCS 880-12716/2-A	Lab Control Sample	104	112
LCSD 880-12716/3-A	Lab Control Sample Dup	89	95
MB 880-12716/1-A	Method Blank	108	129

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-12636/5-A

Matrix: Solid

Analysis Batch: 12713

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12636

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/19/21 09:45	11/19/21 11:56	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/19/21 09:45	11/19/21 11:56	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/19/21 09:45	11/19/21 11:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/19/21 09:45	11/19/21 11:56	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/19/21 09:45	11/19/21 11:56	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/19/21 09:45	11/19/21 11:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	11/19/21 09:45	11/19/21 11:56	1
1,4-Difluorobenzene (Surr)	98		70 - 130	11/19/21 09:45	11/19/21 11:56	1

Lab Sample ID: LCS 880-12636/1-A

Matrix: Solid

Analysis Batch: 12713

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12636

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08879		mg/Kg		89	70 - 130
Toluene	0.100	0.07904		mg/Kg		79	70 - 130
Ethylbenzene	0.100	0.09078		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1751		mg/Kg		88	70 - 130
o-Xylene	0.100	0.08756		mg/Kg		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: LCSD 880-12636/2-A

Matrix: Solid

Analysis Batch: 12713

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12636

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09392		mg/Kg		94	70 - 130	6	35
Toluene	0.100	0.08333		mg/Kg		83	70 - 130	5	35
Ethylbenzene	0.100	0.08763		mg/Kg		88	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1689		mg/Kg		84	70 - 130	4	35
o-Xylene	0.100	0.08523		mg/Kg		85	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-1593-1 MSD

Matrix: Solid

Analysis Batch: 12713

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 12636

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.09093		mg/Kg					
Toluene	<0.00200	U	0.100	0.08477		mg/Kg					

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

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

Lab Sample ID: 890-1593-1 MSD

Matrix: Solid

Analysis Batch: 12713

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 12636

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00200	U	0.100	0.08814		mg/Kg					
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1714		mg/Kg					
o-Xylene	<0.00200	U	0.100	0.08719		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 890-1593-1 MS

Matrix: Solid

Analysis Batch: 12713

Client Sample ID: BH01

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

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

Lab Sample ID: MB 880-12716/1-A

Matrix: Solid

Analysis Batch: 12735

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12716

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		11/19/21 09:12	11/19/21 12:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/19/21 09:12	11/19/21 12:33	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/19/21 09:12	11/19/21 12:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	11/19/21 09:12	11/19/21 12:33	1
o-Terphenyl	129		70 - 130	11/19/21 09:12	11/19/21 12:33	1

Lab Sample ID: LCS 880-12716/2-A

Matrix: Solid

Analysis Batch: 12735

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	930.1		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	1000	877.0		mg/Kg		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	112		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

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

Lab Sample ID: LCSD 880-12716/3-A

Matrix: Solid

Analysis Batch: 12735

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12716

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1092		mg/Kg		109	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	1000	840.6		mg/Kg		84	70 - 130	4	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	89		70 - 130						
o-Terphenyl	95		70 - 130						

Lab Sample ID: 890-1593-1 MS

Matrix: Solid

Analysis Batch: 12735

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 12716

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	998	1446	F1	mg/Kg		145	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	998	912.7		mg/Kg		91	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	104		70 - 130								
o-Terphenyl	110		70 - 130								

Lab Sample ID: 890-1593-1 MSD

Matrix: Solid

Analysis Batch: 12735

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 12716

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	998	1213		mg/Kg		122	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	846.2		mg/Kg		85	70 - 130	8	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	97		70 - 130								
o-Terphenyl	97		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-12748/1-A

Matrix: Solid

Analysis Batch: 12795

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			11/19/21 16:21	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-12748/2-A

Matrix: Solid

Analysis Batch: 12795

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	246.1		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-12748/3-A

Matrix: Solid

Analysis Batch: 12795

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	247.8		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-1586-A-1-G MS

Matrix: Solid

Analysis Batch: 12795

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	477		249	715.1		mg/Kg		96	90 - 110

Lab Sample ID: 890-1586-A-1-H MSD

Matrix: Solid

Analysis Batch: 12795

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	477		249	714.5		mg/Kg		95	90 - 110	0	20

Lab Sample ID: MB 880-12495/1-A

Matrix: Solid

Analysis Batch: 12947

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			11/22/21 09:10	1

Lab Sample ID: LCS 880-12495/2-A

Matrix: Solid

Analysis Batch: 12947

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

Lab Sample ID: LCSD 880-12495/3-A

Matrix: Solid

Analysis Batch: 12947

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	259.4		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 880-8304-A-13-D MS

Matrix: Solid

Analysis Batch: 12947

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	124		250	374.0		mg/Kg		100	90 - 110

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-8304-A-13-E MSD

Matrix: Solid

Analysis Batch: 12947

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	124		250	367.7		mg/Kg		98	90 - 110	2	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

GC VOA

Prep Batch: 12636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1593-1	BH01	Total/NA	Solid	5035	
MB 880-12636/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-12636/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-12636/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1593-1 MSD	BH01	Total/NA	Solid	5035	

Analysis Batch: 12713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1593-1	BH01	Total/NA	Solid	8021B	12636
MB 880-12636/5-A	Method Blank	Total/NA	Solid	8021B	12636
LCS 880-12636/1-A	Lab Control Sample	Total/NA	Solid	8021B	12636
LCSD 880-12636/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	12636
890-1593-1 MS	BH01	Total/NA	Solid	8021B	
890-1593-1 MSD	BH01	Total/NA	Solid	8021B	12636

Analysis Batch: 12779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1593-1	BH01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 12716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1593-1	BH01	Total/NA	Solid	8015NM Prep	
MB 880-12716/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-12716/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-12716/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1593-1 MS	BH01	Total/NA	Solid	8015NM Prep	
890-1593-1 MSD	BH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 12735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1593-1	BH01	Total/NA	Solid	8015B NM	12716
MB 880-12716/1-A	Method Blank	Total/NA	Solid	8015B NM	12716
LCS 880-12716/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	12716
LCSD 880-12716/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	12716
890-1593-1 MS	BH01	Total/NA	Solid	8015B NM	12716
890-1593-1 MSD	BH01	Total/NA	Solid	8015B NM	12716

Analysis Batch: 12781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1593-1	BH01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 12495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1593-1	BH01	Soluble	Solid	DI Leach	
MB 880-12495/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12495/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12495/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-8304-A-13-D MS	Matrix Spike	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

HPLC/IC (Continued)

Leach Batch: 12495 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-8304-A-13-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 12748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-12748/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12748/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12748/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1586-A-1-G MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1586-A-1-H MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 12795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-12748/1-A	Method Blank	Soluble	Solid	300.0	12748
LCS 880-12748/2-A	Lab Control Sample	Soluble	Solid	300.0	12748
LCSD 880-12748/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12748
890-1586-A-1-G MS	Matrix Spike	Soluble	Solid	300.0	12748
890-1586-A-1-H MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12748

Analysis Batch: 12947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1593-1	BH01	Soluble	Solid	300.0	12495
MB 880-12495/1-A	Method Blank	Soluble	Solid	300.0	12495
LCS 880-12495/2-A	Lab Control Sample	Soluble	Solid	300.0	12495
LCSD 880-12495/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12495
880-8304-A-13-D MS	Matrix Spike	Soluble	Solid	300.0	12495
880-8304-A-13-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12495

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

Client Sample ID: BH01**Lab Sample ID: 890-1593-1****Date Collected: 11/17/21 13:30****Matrix: Solid****Date Received: 11/18/21 11:37**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	12636	11/19/21 09:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12713	11/19/21 12:18	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12779	11/19/21 13:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	12716	11/19/21 09:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1			12735	11/19/21 13:40	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	12495	11/22/21 08:08	CA	XEN MID
Soluble	Analysis	300.0		1			12947	11/22/21 12:51	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

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

Eurofins Xenco, Carlsbad

Method Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

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

Eurofins Xenco, Carlsbad

Sample Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1593-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1593-1	BH01	Solid	11/17/21 13:30	11/18/21 11:37	7.5 - GRAB

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



Environment Testing

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

Chain of Custody

Work Order No:

www.xenco.com

Page 1 of 1

Project Manager:	Joseph Hernandez		Bill to: (if different)	
Company Name:	wsp		Company Name:	
Address:	3300 N A Street		Address:	
City, State ZIP:	Midland, TX 79705		City, State ZIP:	
Phone:	817-768-2329	Email:	joe.hernandez@wsp.com	

Work Order Comments				
Program:	UST/PST <input type="checkbox"/>	PRP <input type="checkbox"/>	Brownfields <input type="checkbox"/>	RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:				
Reporting:	Level II <input type="checkbox"/>	Level III <input type="checkbox"/>	PST/UST <input type="checkbox"/>	TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/>	ADAPT <input type="checkbox"/>	Other: _____	

Project Name:		Black River 44		Turn Around				ANALYSIS REQUEST		Preservative Codes	
Project Number:		31403152.007		<input type="checkbox"/> Routine <input checked="" type="checkbox"/> Rush						None: NO	
Project Location:		Eddy County		Due Date:		24 HR				Cool: Cool	
Sampler's Name:		Eliot Lee		TAT starts the day received by the lab, if received by 4:30pm						HCL: HC	
PO #:		CE: CL21.0049		Wet Ice:		Yes No				H ₂ SO ₄ : H ₂	
SAMPLE RECEIPT		Temp Blank:		Yes No						H ₂ PO ₄ : HP	
Samples Received Intact:		Yes No		Thermometer ID:		TMM-063				NaHSO ₄ : NABIS	
Cooler Custody Seals:		Yes No		Correction Factor:		-0.2				Na ₂ S ₂ O ₃ : NASO ₃	
Sample Custody Seals:		Yes No		Temperature Reading:		1.4/1.2				Zn Acetate+NaOH: Zn	
Total Containers:				Corrected Temperature:						NaOH+Ascorbic Acid: SAPC	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	TP	BTE	Chi	Sample Comments
BH01	S	11/13/01	1330	7.5'	Grab	1	X	X	X	Incident # : PAP210854986
Tall 02										

Total 2007 / 6010	2008 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂	Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP / SPLP 6010 :	8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471	

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xeno, its affiliates and subcontractors. It assigns trademark, terms and conditions of service. Eurofins Xeno will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xeno. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xeno but not analyzed. These terms will be enforced unless previously agreed to by Eurofins Xeno. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xeno but not analyzed. These terms will be enforced unless previously agreed to by Eurofins Xeno.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	11/18/21	<i>[Signature]</i>	<i>[Signature]</i>	11-18-21

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1593-1

SDG Number: Eddy County

Login Number: 1593**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: 890-1593-1

SDG Number: Eddy County

Login Number: 1593**List Number: 2****Creator: Kramer, Jessica****List Source: Eurofins Xenco, Midland****List Creation: 11/19/21 11:47 AM**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1595-1

Laboratory Sample Delivery Group: Eddy County
Client Project/Site: Black River 4h

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
12/2/2021 11:13:22 AM

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

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

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

Client: WSP USA Inc.
Project/Site: Black River 4h

Laboratory Job ID: 890-1595-1
SDG: Eddy County

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

Job ID: 890-1595-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

**Job Narrative
890-1595-1**

Receipt

The samples were received on 11/18/2021 11:37 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-12786 and analytical batch 880-12909 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-12786 and analytical batch 880-12909 was outside the upper control limits.

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

GC Semi VOA

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-12803 and analytical batch 880-13320 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: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

Client Sample ID: PH01

Lab Sample ID: 890-1595-1

Date Collected: 11/17/21 15:57

Matrix: Solid

Date Received: 11/18/21 11:37

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		11/22/21 08:00	11/22/21 23:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:00	11/22/21 23:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:00	11/22/21 23:00	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/22/21 08:00	11/22/21 23:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:00	11/22/21 23:00	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/22/21 08:00	11/22/21 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130	11/22/21 08:00	11/22/21 23:00	1
1,4-Difluorobenzene (Surr)	100		70 - 130	11/22/21 08:00	11/22/21 23:00	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/24/21 10:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/23/21 08:35	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		11/19/21 09:13	11/19/21 21:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/19/21 09:13	11/19/21 21:14	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/19/21 09:13	11/19/21 21:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	11/19/21 09:13	11/19/21 21:14	1
o-Terphenyl	116		70 - 130	11/19/21 09:13	11/19/21 21:14	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	275		5.04	mg/Kg			11/30/21 22:53	1

Client Sample ID: PH01 A LDV

Lab Sample ID: 890-1595-2

Date Collected: 11/17/21 16:28

Matrix: Solid

Date Received: 11/18/21 11:37

Sample Depth: 8

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:00	11/22/21 23:27	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:00	11/22/21 23:27	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:00	11/22/21 23:27	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/22/21 08:00	11/22/21 23:27	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:00	11/22/21 23:27	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/22/21 08:00	11/22/21 23:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	11/22/21 08:00	11/22/21 23:27	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

Client Sample ID: PH01 A LDV

Lab Sample ID: 890-1595-2

Date Collected: 11/17/21 16:28

Matrix: Solid

Date Received: 11/18/21 11:37

Sample Depth: 8

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	89		70 - 130	11/22/21 08:00	11/22/21 23:27	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/24/21 10:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			11/23/21 08:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U +	49.8	mg/Kg		11/19/21 09:13	11/19/21 21:34	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/19/21 09:13	11/19/21 21:34	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/19/21 09:13	11/19/21 21:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130			11/19/21 09:13	11/19/21 21:34	1
o-Terphenyl	112		70 - 130			11/19/21 09:13	11/19/21 21:34	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	379		4.99	mg/Kg			11/30/21 23:05	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-8509-A-23-B MS	Matrix Spike	91	123
880-8509-A-23-C MSD	Matrix Spike Duplicate	90	116
890-1595-1	PH01	92	100
890-1595-2	PH01 A LDV	98	89
LCS 880-12786/1-A	Lab Control Sample	117	113
LCSD 880-12786/2-A	Lab Control Sample Dup	100	111
MB 880-12786/5-A	Method Blank	66 S1-	100
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1595-1	PH01	99	116
890-1595-2	PH01 A LDV	94	112
890-1601-A-1-G MS	Matrix Spike	101	97
890-1601-A-1-H MSD	Matrix Spike Duplicate	108	103
LCS 880-12717/2-A	Lab Control Sample	91	73
LCSD 880-12717/3-A	Lab Control Sample Dup	131 S1+	119
MB 880-12717/1-A	Method Blank	96	106
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1	OTPH1
890-1601-A-1-G MS	Matrix Spike		
890-1601-A-1-H MSD	Matrix Spike Duplicate		
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-12786/5-A

Matrix: Solid

Analysis Batch: 12909

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12786

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:00	11/22/21 15:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:00	11/22/21 15:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:00	11/22/21 15:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/22/21 08:00	11/22/21 15:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:00	11/22/21 15:17	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/22/21 08:00	11/22/21 15:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130	11/22/21 08:00	11/22/21 15:17	1
1,4-Difluorobenzene (Surr)	100		70 - 130	11/22/21 08:00	11/22/21 15:17	1

Lab Sample ID: LCS 880-12786/1-A

Matrix: Solid

Analysis Batch: 12909

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12786

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09549		mg/Kg		95	70 - 130
Toluene	0.100	0.1078		mg/Kg		108	70 - 130
Ethylbenzene	0.100	0.1096		mg/Kg		110	70 - 130
m-Xylene & p-Xylene	0.200	0.2452		mg/Kg		123	70 - 130
o-Xylene	0.100	0.1134		mg/Kg		113	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: LCSD 880-12786/2-A

Matrix: Solid

Analysis Batch: 12909

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12786

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08790		mg/Kg		88	70 - 130	8	35
Toluene	0.100	0.08563		mg/Kg		86	70 - 130	23	35
Ethylbenzene	0.100	0.08519		mg/Kg		85	70 - 130	25	35
m-Xylene & p-Xylene	0.200	0.1905		mg/Kg		95	70 - 130	25	35
o-Xylene	0.100	0.08983		mg/Kg		90	70 - 130	23	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: 880-8509-A-23-B MS

Matrix: Solid

Analysis Batch: 12909

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12786

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F1	0.100	0.06002	F1	mg/Kg		60	70 - 130
Toluene	<0.00199	U F1	0.100	0.05472	F1	mg/Kg		55	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

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

Lab Sample ID: 880-8509-A-23-B MS

Matrix: Solid

Analysis Batch: 12909

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12786

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U F1	0.100	0.04726	F1	mg/Kg		47	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.1012	F1	mg/Kg		50	70 - 130
o-Xylene	<0.00199	U F1	0.100	0.05081	F1	mg/Kg		51	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,4-Difluorobenzene (Surr)	123		70 - 130

Lab Sample ID: 880-8509-A-23-C MSD

Matrix: Solid

Analysis Batch: 12909

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12786

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0998	0.05758	F1	mg/Kg		58	70 - 130	4	35
Toluene	<0.00199	U F1	0.0998	0.05483	F1	mg/Kg		55	70 - 130	0	35
Ethylbenzene	<0.00199	U F1	0.0998	0.04956	F1	mg/Kg		50	70 - 130	5	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1065	F1	mg/Kg		53	70 - 130	5	35
o-Xylene	<0.00199	U F1	0.0998	0.05334	F1	mg/Kg		53	70 - 130	5	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	116		70 - 130

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

Lab Sample ID: MB 880-12717/1-A

Matrix: Solid

Analysis Batch: 12737

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12717

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		11/19/21 09:13	11/19/21 12:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/19/21 09:13	11/19/21 12:33	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/19/21 09:13	11/19/21 12:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	11/19/21 09:13	11/19/21 12:33	1
o-Terphenyl	106		70 - 130	11/19/21 09:13	11/19/21 12:33	1

Lab Sample ID: LCS 880-12717/2-A

Matrix: Solid

Analysis Batch: 12737

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12717

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1214		mg/Kg		121	70 - 130
Diesel Range Organics (Over C10-C28)	1000	751.9		mg/Kg		75	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

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

Lab Sample ID: LCS 880-12717/2-A

Matrix: Solid

Analysis Batch: 12737

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12717

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	73		70 - 130

Lab Sample ID: LCSD 880-12717/3-A

Matrix: Solid

Analysis Batch: 12737

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12717

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1354	*+	mg/Kg		135	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	859.7		mg/Kg		86	70 - 130	13	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	131	S1+	70 - 130
o-Terphenyl	119		70 - 130

Lab Sample ID: 890-1601-A-1-G MS

Matrix: Solid

Analysis Batch: 12737

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12717

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	998	965.1		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	998	793.3		mg/Kg		79	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: 890-1601-A-1-G MS

Matrix: Solid

Analysis Batch: 13043

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12717

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			998	1127		mg/Kg			
Diesel Range Organics (Over C10-C28)			998	1068		mg/Kg			

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane			
o-Terphenyl			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

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

Lab Sample ID: 890-1601-A-1-H MSD

Matrix: Solid

Analysis Batch: 12737

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12717

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	998	945.5		mg/Kg		92	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	856.3		mg/Kg		86	70 - 130	8	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	108		70 - 130								
o-Terphenyl	103		70 - 130								

Lab Sample ID: 890-1601-A-1-H MSD

Matrix: Solid

Analysis Batch: 13043

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12717

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			998	1129		mg/Kg					
Diesel Range Organics (Over C10-C28)			998	1074		mg/Kg					
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane											
o-Terphenyl											

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-12803/1-A

Matrix: Solid

Analysis Batch: 13320

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			11/30/21 21:43	1

Lab Sample ID: LCS 880-12803/2-A

Matrix: Solid

Analysis Batch: 13320

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
Chloride	250	274.7		mg/Kg		110	90 - 110	

Lab Sample ID: LCSD 880-12803/3-A

Matrix: Solid

Analysis Batch: 13320

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	274.8		mg/Kg		110	90 - 110	0	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1590-A-10-F MS

Matrix: Solid

Analysis Batch: 13320

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	20.6	F1	249	327.3	F1	mg/Kg		123	90 - 110		

Lab Sample ID: 890-1590-A-10-G MSD

Matrix: Solid

Analysis Batch: 13320

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	20.6	F1	249	316.9	F1	mg/Kg		119	90 - 110	3	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

GC VOA

Prep Batch: 12786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1595-1	PH01	Total/NA	Solid	5035	
890-1595-2	PH01 A LDV	Total/NA	Solid	5035	
MB 880-12786/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-12786/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-12786/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-8509-A-23-B MS	Matrix Spike	Total/NA	Solid	5035	
880-8509-A-23-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 12909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1595-1	PH01	Total/NA	Solid	8021B	12786
890-1595-2	PH01 A LDV	Total/NA	Solid	8021B	12786
MB 880-12786/5-A	Method Blank	Total/NA	Solid	8021B	12786
LCS 880-12786/1-A	Lab Control Sample	Total/NA	Solid	8021B	12786
LCSD 880-12786/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	12786
880-8509-A-23-B MS	Matrix Spike	Total/NA	Solid	8021B	12786
880-8509-A-23-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	12786

Analysis Batch: 12945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1595-1	PH01	Total/NA	Solid	Total BTEX	
890-1595-2	PH01 A LDV	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 12717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1595-1	PH01	Total/NA	Solid	8015NM Prep	
890-1595-2	PH01 A LDV	Total/NA	Solid	8015NM Prep	
MB 880-12717/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-12717/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-12717/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1601-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1601-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 12737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1595-1	PH01	Total/NA	Solid	8015B NM	12717
890-1595-2	PH01 A LDV	Total/NA	Solid	8015B NM	12717
MB 880-12717/1-A	Method Blank	Total/NA	Solid	8015B NM	12717
LCS 880-12717/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	12717
LCSD 880-12717/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	12717
890-1601-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	12717
890-1601-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	12717

Analysis Batch: 12781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1595-1	PH01	Total/NA	Solid	8015 NM	
890-1595-2	PH01 A LDV	Total/NA	Solid	8015 NM	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

GC Semi VOA

Analysis Batch: 13043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	12717
890-1601-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	12717

HPLC/IC

Leach Batch: 12803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1595-1	PH01	Soluble	Solid	DI Leach	
890-1595-2	PH01 A LDV	Soluble	Solid	DI Leach	
MB 880-12803/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12803/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12803/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1590-A-10-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1590-A-10-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 13320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1595-1	PH01	Soluble	Solid	300.0	12803
890-1595-2	PH01 A LDV	Soluble	Solid	300.0	12803
MB 880-12803/1-A	Method Blank	Soluble	Solid	300.0	12803
LCS 880-12803/2-A	Lab Control Sample	Soluble	Solid	300.0	12803
LCSD 880-12803/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12803
890-1590-A-10-F MS	Matrix Spike	Soluble	Solid	300.0	12803
890-1590-A-10-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12803

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

Client Sample ID: PH01

Lab Sample ID: 890-1595-1

Date Collected: 11/17/21 15:57

Matrix: Solid

Date Received: 11/18/21 11:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	12786	11/22/21 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12909	11/22/21 23:00	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/24/21 10:52	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/23/21 08:35	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1			12737	11/19/21 21:14	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	12803	11/19/21 16:51	SC	XEN MID
Soluble	Analysis	300.0		1			13320	11/30/21 22:53	CH	XEN MID

Client Sample ID: PH01 A LDV

Lab Sample ID: 890-1595-2

Date Collected: 11/17/21 16:28

Matrix: Solid

Date Received: 11/18/21 11:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	12786	11/22/21 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12909	11/22/21 23:27	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/24/21 10:52	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/23/21 08:35	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1			12737	11/19/21 21:34	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	12803	11/19/21 16:51	SC	XEN MID
Soluble	Analysis	300.0		1			13320	11/30/21 23:05	CH	XEN MID

Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

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.
Project/Site: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

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: Black River 4h

Job ID: 890-1595-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1595-1	PH01	Solid	11/17/21 15:57	11/18/21 11:37	1
890-1595-2	PH01 A LDV	Solid	11/17/21 16:28	11/18/21 11:37	8

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



Environment Testing Xenco

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

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	
Company Name:	WSP	Company Name:	
Address:	3880 N A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(817) 782-3339	Email:	joe.hernandez@wsp.com

Work Order Comments			
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>		
State of Project:			
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>		
Deliverables:	EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____		

Project Name:	Black River 4H	Turn Around		Pres. Code		ANALYSIS REQUEST		Preservative Codes	
Project Number:	31483152.007	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush						None: NO	DI Water: H ₂ O
Project Location:	Eddy County	Due Date:						Cool: Cool	MeOH: Me
Sampler's Name:	Luis Del Val	TAT starts the day received by the lab, if received by 4:30pm						HCL: HC	HNO ₃ : HN
P.O. #:								H ₂ SO ₄ : H ₂	NaOH: Na
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						H ₃ PO ₄ : HP	
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID: TMM003						NaHSO ₄ : NABIS	
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Correction Factor: -0.2						Na ₂ S ₂ O ₃ : NaSO ₃	
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Temperature Reading: 1.4/1.2						Zn Acetate+NaOH: Zn	
Total Containers:		Corrected Temperature:						NaOH+Ascorbic Acid: SARC	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont			Sample Comments
PH01	S	11/13/21	155:1	1'	Grab	1			Incident #:
PH01 A 1DV	S	11/13/21	1638	8'	Grab	1			NAPRA28514980
									CC:
									CL: 21.02649
									Table fix



890-1595 Chain of Custody

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471

Notes: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Joe Hernandez	Luis Del Val	11/18/21 11:37	Joe Hernandez	Luis Del Val	11/18/21 11:37

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1595-1

SDG Number: Eddy County

Login Number: 1595

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: 890-1595-1

SDG Number: Eddy County

Login Number: 1595

List Source: Eurofins Xenco, Midland

List Number: 2

List Creation: 11/19/21 11:47 AM

Creator: Kramer, Jessica

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	3.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1608-1

Laboratory Sample Delivery Group: 31403152.007 tASK 02
Client Project/Site: Black River 4H

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
11/22/2021 7:12:23 PM

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

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

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

Client: WSP USA Inc.
Project/Site: Black River 4H

Laboratory Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Job ID: 890-1608-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1608-1

Receipt

The samples were received on 11/19/2021 2:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 880-12855 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: FS01

Lab Sample ID: 890-1608-1

Date Collected: 11/18/21 15:33

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 13:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 13:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 13:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/22/21 08:30	11/22/21 13:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 13:07	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/22/21 08:30	11/22/21 13:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	11/22/21 08:30	11/22/21 13:07	1
1,4-Difluorobenzene (Surr)	109		70 - 130	11/22/21 08:30	11/22/21 13:07	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			11/22/21 13:36	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			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 12:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 12:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 12:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130	11/22/21 08:30	11/22/21 12:12	1
o-Terphenyl	138	S1+	70 - 130	11/22/21 08:30	11/22/21 12:12	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19.3		4.97	mg/Kg			11/22/21 17:47	1

Client Sample ID: FS02

Lab Sample ID: 890-1608-2

Date Collected: 11/18/21 15:30

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:30	11/22/21 13:27	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:30	11/22/21 13:27	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:30	11/22/21 13:27	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/22/21 08:30	11/22/21 13:27	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:30	11/22/21 13:27	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/22/21 08:30	11/22/21 13:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	11/22/21 08:30	11/22/21 13:27	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: FS02

Lab Sample ID: 890-1608-2

Date Collected: 11/18/21 15:30

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 4.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	110		70 - 130	11/22/21 08:30	11/22/21 13:27	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/22/21 13:36	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			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 13:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 13:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 13:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130			11/22/21 08:30	11/22/21 13:15	1
o-Terphenyl	130		70 - 130			11/22/21 08:30	11/22/21 13:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.4		5.05	mg/Kg			11/22/21 18:09	1

Client Sample ID: FS03

Lab Sample ID: 890-1608-3

Date Collected: 11/18/21 15:08

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/22/21 08:30	11/22/21 13:48	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/22/21 08:30	11/22/21 13:48	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		11/22/21 08:30	11/22/21 13:48	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		11/22/21 08:30	11/22/21 13:48	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/22/21 08:30	11/22/21 13:48	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		11/22/21 08:30	11/22/21 13:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	11/22/21 08:30	11/22/21 13:48	1
1,4-Difluorobenzene (Surr)	105		70 - 130	11/22/21 08:30	11/22/21 13:48	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			11/22/21 13:36	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			11/19/21 13:54	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: FS03

Lab Sample ID: 890-1608-3

Date Collected: 11/18/21 15:08

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 4.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 13:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 13:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 13:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130			11/22/21 08:30	11/22/21 13:37	1
o-Terphenyl	125		70 - 130			11/22/21 08:30	11/22/21 13:37	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	196		4.97	mg/Kg			11/22/21 18:16	1

Client Sample ID: FS04

Lab Sample ID: 890-1608-4

Date Collected: 11/18/21 15:14

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/22/21 08:30	11/22/21 14:08	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/22/21 08:30	11/22/21 14:08	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		11/22/21 08:30	11/22/21 14:08	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		11/22/21 08:30	11/22/21 14:08	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/22/21 08:30	11/22/21 14:08	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		11/22/21 08:30	11/22/21 14:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130			11/22/21 08:30	11/22/21 14:08	1
1,4-Difluorobenzene (Surr)	79		70 - 130			11/22/21 08:30	11/22/21 14:08	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			11/22/21 13:36	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			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 13:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 13:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 13:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130			11/22/21 08:30	11/22/21 13:58	1
o-Terphenyl	126		70 - 130			11/22/21 08:30	11/22/21 13:58	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: FS04

Lab Sample ID: 890-1608-4

Date Collected: 11/18/21 15:14

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 4.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78.7		4.95	mg/Kg			11/22/21 18:23	1

Client Sample ID: FS05

Lab Sample ID: 890-1608-5

Date Collected: 11/18/21 15:19

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		11/22/21 08:30	11/22/21 14:29	1
Toluene	<0.00202	U	0.00202	mg/Kg		11/22/21 08:30	11/22/21 14:29	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		11/22/21 08:30	11/22/21 14:29	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		11/22/21 08:30	11/22/21 14:29	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		11/22/21 08:30	11/22/21 14:29	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		11/22/21 08:30	11/22/21 14:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130			11/22/21 08:30	11/22/21 14:29	1
1,4-Difluorobenzene (Surr)	99		70 - 130			11/22/21 08:30	11/22/21 14:29	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			11/22/21 13:36	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			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	49.9	mg/Kg		11/21/21 12:42	11/22/21 12:12	1
Diesel Range Organics (Over C10-C28)	<49.9	U F1	49.9	mg/Kg		11/21/21 12:42	11/22/21 12:12	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/21/21 12:42	11/22/21 12:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	64	S1-	70 - 130			11/21/21 12:42	11/22/21 12:12	1
o-Terphenyl	63	S1-	70 - 130			11/21/21 12:42	11/22/21 12:12	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47.4		4.98	mg/Kg			11/22/21 18:31	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: SW01

Lab Sample ID: 890-1608-6

Date Collected: 11/18/21 15:25

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 0 - 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:30	11/22/21 14:49	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:30	11/22/21 14:49	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:30	11/22/21 14:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/22/21 08:30	11/22/21 14:49	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/22/21 08:30	11/22/21 14:49	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/22/21 08:30	11/22/21 14:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	135	S1+	70 - 130	11/22/21 08:30	11/22/21 14:49	1
1,4-Difluorobenzene (Surr)	114		70 - 130	11/22/21 08:30	11/22/21 14:49	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/22/21 13:36	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			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/21/21 12:42	11/22/21 13:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/21/21 12:42	11/22/21 13:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/21/21 12:42	11/22/21 13:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	58	S1-	70 - 130	11/21/21 12:42	11/22/21 13:15	1
o-Terphenyl	56	S1-	70 - 130	11/21/21 12:42	11/22/21 13:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2350		25.0	mg/Kg			11/22/21 18:38	5

Client Sample ID: SW02

Lab Sample ID: 890-1608-7

Date Collected: 11/18/21 15:38

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 0 - 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 15:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 15:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 15:09	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		11/22/21 08:30	11/22/21 15:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 15:09	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		11/22/21 08:30	11/22/21 15:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	11/22/21 08:30	11/22/21 15:09	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: SW02

Lab Sample ID: 890-1608-7

Date Collected: 11/18/21 15:38

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 0 - 4.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	102		70 - 130	11/22/21 08:30	11/22/21 15:09	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			11/22/21 13:36	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			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/21/21 12:42	11/22/21 13:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/21/21 12:42	11/22/21 13:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/21/21 12:42	11/22/21 13:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	60	S1-	70 - 130			11/21/21 12:42	11/22/21 13:37	1
o-Terphenyl	58	S1-	70 - 130			11/21/21 12:42	11/22/21 13:37	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.5		4.96	mg/Kg			11/22/21 18:46	1

Client Sample ID: SW03

Lab Sample ID: 890-1608-8

Date Collected: 11/18/21 15:45

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 0 - 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 15:30	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 15:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 15:30	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/22/21 08:30	11/22/21 15:30	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 15:30	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/22/21 08:30	11/22/21 15:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	11/22/21 08:30	11/22/21 15:30	1
1,4-Difluorobenzene (Surr)	104		70 - 130	11/22/21 08:30	11/22/21 15:30	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			11/22/21 13:36	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			11/19/21 13:54	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: SW03

Lab Sample ID: 890-1608-8

Date Collected: 11/18/21 15:45

Matrix: Solid

Date Received: 11/19/21 14:10

Sample Depth: 0 - 4.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/21/21 12:42	11/22/21 13:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/21/21 12:42	11/22/21 13:58	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/21/21 12:42	11/22/21 13:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	59	S1-	70 - 130	11/21/21 12:42	11/22/21 13:58	1
o-Terphenyl	57	S1-	70 - 130	11/21/21 12:42	11/22/21 13:58	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.7		4.98	mg/Kg			11/22/21 18:53	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1604-A-1-B MSD	Matrix Spike Duplicate	110	107
890-1604-A-1-E MS	Matrix Spike	106	109
890-1608-1	FS01	126	109
890-1608-2	FS02	128	110
890-1608-3	FS03	120	105
890-1608-4	FS04	125	79
890-1608-5	FS05	120	99
890-1608-6	SW01	135 S1+	114
890-1608-7	SW02	122	102
890-1608-8	SW03	126	104
LCS 880-12796/1-A	Lab Control Sample	104	107
LCSD 880-12796/2-A	Lab Control Sample Dup	106	108
MB 880-12796/5-A	Method Blank	109	95
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1	OTPH1
880-1608-A-5-E MSD	880-1608-A-5-E MSD		
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1608-1	FS01	127	138 S1+
890-1608-1 MS	FS01	110	105
890-1608-1 MSD	FS01	106	111
890-1608-2	FS02	113	130
890-1608-3	FS03	109	125
890-1608-4	FS04	111	126
890-1608-5	FS05	64 S1-	63 S1-
890-1608-5 MS	FS05	119	12 S1-
890-1608-6	SW01	58 S1-	56 S1-
890-1608-7	SW02	60 S1-	58 S1-
890-1608-8	SW03	59 S1-	57 S1-
LCS 880-12847/2-A	Lab Control Sample	108	114
LCS 880-12848/2-A	Lab Control Sample	149 S1+	4 S1-
LCSD 880-12847/3-A	Lab Control Sample Dup	97	106
LCSD 880-12848/3-A	Lab Control Sample Dup	149 S1+	4 S1-

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
MB 880-12847/1-A	Method Blank	132 S1+	148 S1+
MB 880-12848/1-A	Method Blank	64 S1-	65 S1-
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-12796/5-A

Matrix: Solid

Analysis Batch: 12902

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12796

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 12:05	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 12:05	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 12:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/22/21 08:30	11/22/21 12:05	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/22/21 08:30	11/22/21 12:05	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/22/21 08:30	11/22/21 12:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	11/22/21 08:30	11/22/21 12:05	1
1,4-Difluorobenzene (Surr)	95		70 - 130	11/22/21 08:30	11/22/21 12:05	1

Lab Sample ID: LCS 880-12796/1-A

Matrix: Solid

Analysis Batch: 12902

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12796

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1018		mg/Kg		102	70 - 130
Toluene	0.100	0.09108		mg/Kg		91	70 - 130
Ethylbenzene	0.100	0.08837		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	0.200	0.1832		mg/Kg		92	70 - 130
o-Xylene	0.100	0.09141		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-12796/2-A

Matrix: Solid

Analysis Batch: 12902

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12796

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09500		mg/Kg		95	70 - 130	7	35
Toluene	0.100	0.08552		mg/Kg		86	70 - 130	6	35
Ethylbenzene	0.100	0.08678		mg/Kg		87	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1798		mg/Kg		90	70 - 130	2	35
o-Xylene	0.100	0.08882		mg/Kg		89	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-1604-A-1-B MSD

Matrix: Solid

Analysis Batch: 12902

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12796

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.08173		mg/Kg		82	70 - 130	12	35
Toluene	<0.00201	U F1	0.0994	0.07197		mg/Kg		71	70 - 130	19	35

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

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

Lab Sample ID: 890-1604-A-1-B MSD

Matrix: Solid

Analysis Batch: 12902

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12796

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00201	U F1	0.0994	0.06480	F1	mg/Kg		65	70 - 130	14	35
m-Xylene & p-Xylene	<0.00402	U F1	0.199	0.1341	F1	mg/Kg		67	70 - 130	18	35
o-Xylene	<0.00201	U F1	0.0994	0.06690	F1	mg/Kg		67	70 - 130	20	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 890-1604-A-1-E MS

Matrix: Solid

Analysis Batch: 12902

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12796

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00201	U	0.100	0.07245		mg/Kg		72	70 - 130
Toluene	<0.00201	U F1	0.100	0.05964	F1	mg/Kg		58	70 - 130
Ethylbenzene	<0.00201	U F1	0.100	0.05615	F1	mg/Kg		56	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.1118	F1	mg/Kg		56	70 - 130
o-Xylene	<0.00201	U F1	0.100	0.05493	F1	mg/Kg		54	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

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

Lab Sample ID: MB 880-12847/1-A

Matrix: Solid

Analysis Batch: 12853

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12847

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		11/22/21 08:30	11/22/21 10:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 10:19	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/22/21 08:30	11/22/21 10:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	132	S1+	70 - 130	11/22/21 08:30	11/22/21 10:19	1
o-Terphenyl	148	S1+	70 - 130	11/22/21 08:30	11/22/21 10:19	1

Lab Sample ID: LCS 880-12847/2-A

Matrix: Solid

Analysis Batch: 12853

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12847

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	861.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1120		mg/Kg		112	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

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

Lab Sample ID: LCS 880-12847/2-A

Matrix: Solid

Analysis Batch: 12853

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12847

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: LCSD 880-12847/3-A

Matrix: Solid

Analysis Batch: 12853

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12847

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	837.9		mg/Kg		84	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	1057		mg/Kg		106	70 - 130	6	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	106		70 - 130

Lab Sample ID: 890-1608-1 MS

Matrix: Solid

Analysis Batch: 12853

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 12847

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1040		mg/Kg		104	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1010		mg/Kg		100	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 890-1608-1 MSD

Matrix: Solid

Analysis Batch: 12853

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 12847

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1033		mg/Kg		104	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1064		mg/Kg		105	70 - 130	5	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	111		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

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

Lab Sample ID: MB 880-12848/1-A

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12848

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		11/21/21 12:42	11/22/21 10:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/21/21 12:42	11/22/21 10:19	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/21/21 12:42	11/22/21 10:19	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	64	S1-	70 - 130			11/21/21 12:42	11/22/21 10:19	1
o-Terphenyl	65	S1-	70 - 130			11/21/21 12:42	11/22/21 10:19	1

Lab Sample ID: LCS 880-12848/2-A

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1500	1122		mg/Kg		75	70 - 130
Diesel Range Organics (Over C10-C28)	1500	1063		mg/Kg		71	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	149	S1+	70 - 130				
o-Terphenyl	4	S1-	70 - 130				

Lab Sample ID: LCSD 880-12848/3-A

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12848

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1500	1149		mg/Kg		77	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1500	1050		mg/Kg		70	70 - 130	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	149	S1+	70 - 130						
o-Terphenyl	4	S1-	70 - 130						

Lab Sample ID: 880-1608-A-5-E MSD

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: 880-1608-A-5-E MSD

Prep Type: Total/NA

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		500	397.0		mg/Kg					
Diesel Range Organics (Over C10-C28)	<49.9		500	148.0		mg/Kg					

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

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

Lab Sample ID: 880-1608-A-5-E MSD

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: 880-1608-A-5-E MSD

Prep Type: Total/NA

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane			
o-Terphenyl			

Lab Sample ID: 890-1608-5 MS

Matrix: Solid

Analysis Batch: 12855

Client Sample ID: FS05

Prep Type: Total/NA

	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	500	1264	F1	mg/Kg		246	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	500	1178	F1	mg/Kg		230	70 - 130
	MS	MS							
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	119		70 - 130						
o-Terphenyl	12	S1-	70 - 130						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-12936/1-A

Matrix: Solid

Analysis Batch: 12958

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	<5.00	U	5.00	mg/Kg			11/22/21 14:42	1	

Lab Sample ID: LCS 880-12936/2-A

Matrix: Solid

Analysis Batch: 12958

Client Sample ID: Lab Control Sample

Prep Type: Soluble

	Spike	LCS	LCS					%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	263.7		mg/Kg		105	90 - 110	

Lab Sample ID: LCSD 880-12936/3-A

Matrix: Solid

Analysis Batch: 12958

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

	Spike	LCSD	LCSD					%Rec.	RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	264.5		mg/Kg		106	90 - 110	0	20

Lab Sample ID: 890-1604-A-1-I MS

Matrix: Solid

Analysis Batch: 12958

Client Sample ID: Matrix Spike

Prep Type: Soluble

	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Chloride	1460		1250	2635		mg/Kg		94	90 - 110

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1604-A-1-J MSD				Client Sample ID: Matrix Spike Duplicate								
Matrix: Solid				Prep Type: Soluble								
Analysis Batch: 12958												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit	
Chloride	1460		1250	2634		mg/Kg		94	90 - 110	0	20	

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

GC VOA

Prep Batch: 12796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-1	FS01	Total/NA	Solid	5035	
890-1608-2	FS02	Total/NA	Solid	5035	
890-1608-3	FS03	Total/NA	Solid	5035	
890-1608-4	FS04	Total/NA	Solid	5035	
890-1608-5	FS05	Total/NA	Solid	5035	
890-1608-6	SW01	Total/NA	Solid	5035	
890-1608-7	SW02	Total/NA	Solid	5035	
890-1608-8	SW03	Total/NA	Solid	5035	
MB 880-12796/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-12796/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-12796/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1604-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
890-1604-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	

Analysis Batch: 12902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-1	FS01	Total/NA	Solid	8021B	12796
890-1608-2	FS02	Total/NA	Solid	8021B	12796
890-1608-3	FS03	Total/NA	Solid	8021B	12796
890-1608-4	FS04	Total/NA	Solid	8021B	12796
890-1608-5	FS05	Total/NA	Solid	8021B	12796
890-1608-6	SW01	Total/NA	Solid	8021B	12796
890-1608-7	SW02	Total/NA	Solid	8021B	12796
890-1608-8	SW03	Total/NA	Solid	8021B	12796
MB 880-12796/5-A	Method Blank	Total/NA	Solid	8021B	12796
LCS 880-12796/1-A	Lab Control Sample	Total/NA	Solid	8021B	12796
LCSD 880-12796/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	12796
890-1604-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	12796
890-1604-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	12796

Analysis Batch: 12945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-1	FS01	Total/NA	Solid	Total BTEX	
890-1608-2	FS02	Total/NA	Solid	Total BTEX	
890-1608-3	FS03	Total/NA	Solid	Total BTEX	
890-1608-4	FS04	Total/NA	Solid	Total BTEX	
890-1608-5	FS05	Total/NA	Solid	Total BTEX	
890-1608-6	SW01	Total/NA	Solid	Total BTEX	
890-1608-7	SW02	Total/NA	Solid	Total BTEX	
890-1608-8	SW03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 12781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-1	FS01	Total/NA	Solid	8015 NM	
890-1608-2	FS02	Total/NA	Solid	8015 NM	
890-1608-3	FS03	Total/NA	Solid	8015 NM	
890-1608-4	FS04	Total/NA	Solid	8015 NM	
890-1608-5	FS05	Total/NA	Solid	8015 NM	
890-1608-6	SW01	Total/NA	Solid	8015 NM	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

GC Semi VOA (Continued)

Analysis Batch: 12781 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-7	SW02	Total/NA	Solid	8015 NM	
890-1608-8	SW03	Total/NA	Solid	8015 NM	

Prep Batch: 12847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-1	FS01	Total/NA	Solid	8015NM Prep	
890-1608-2	FS02	Total/NA	Solid	8015NM Prep	
890-1608-3	FS03	Total/NA	Solid	8015NM Prep	
890-1608-4	FS04	Total/NA	Solid	8015NM Prep	
MB 880-12847/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-12847/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-12847/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1608-1 MS	FS01	Total/NA	Solid	8015NM Prep	
890-1608-1 MSD	FS01	Total/NA	Solid	8015NM Prep	

Prep Batch: 12848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-5	FS05	Total/NA	Solid	8015NM Prep	
890-1608-6	SW01	Total/NA	Solid	8015NM Prep	
890-1608-7	SW02	Total/NA	Solid	8015NM Prep	
890-1608-8	SW03	Total/NA	Solid	8015NM Prep	
MB 880-12848/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-12848/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-12848/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 12853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-1	FS01	Total/NA	Solid	8015B NM	12847
890-1608-2	FS02	Total/NA	Solid	8015B NM	12847
890-1608-3	FS03	Total/NA	Solid	8015B NM	12847
890-1608-4	FS04	Total/NA	Solid	8015B NM	12847
MB 880-12847/1-A	Method Blank	Total/NA	Solid	8015B NM	12847
LCS 880-12847/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	12847
LCSD 880-12847/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	12847
890-1608-1 MS	FS01	Total/NA	Solid	8015B NM	12847
890-1608-1 MSD	FS01	Total/NA	Solid	8015B NM	12847

Analysis Batch: 12855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-5	FS05	Total/NA	Solid	8015B NM	12848
890-1608-6	SW01	Total/NA	Solid	8015B NM	12848
890-1608-7	SW02	Total/NA	Solid	8015B NM	12848
890-1608-8	SW03	Total/NA	Solid	8015B NM	12848
MB 880-12848/1-A	Method Blank	Total/NA	Solid	8015B NM	12848
LCS 880-12848/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	12848
LCSD 880-12848/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	12848
880-1608-A-5-E MSD	880-1608-A-5-E MSD	Total/NA	Solid	8015B NM	
890-1608-5 MS	FS05	Total/NA	Solid	8015B NM	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

HPLC/IC

Leach Batch: 12936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-1	FS01	Soluble	Solid	DI Leach	
890-1608-2	FS02	Soluble	Solid	DI Leach	
890-1608-3	FS03	Soluble	Solid	DI Leach	
890-1608-4	FS04	Soluble	Solid	DI Leach	
890-1608-5	FS05	Soluble	Solid	DI Leach	
890-1608-6	SW01	Soluble	Solid	DI Leach	
890-1608-7	SW02	Soluble	Solid	DI Leach	
890-1608-8	SW03	Soluble	Solid	DI Leach	
MB 880-12936/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12936/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12936/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1604-A-1-I MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1604-A-1-J MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 12958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1608-1	FS01	Soluble	Solid	300.0	12936
890-1608-2	FS02	Soluble	Solid	300.0	12936
890-1608-3	FS03	Soluble	Solid	300.0	12936
890-1608-4	FS04	Soluble	Solid	300.0	12936
890-1608-5	FS05	Soluble	Solid	300.0	12936
890-1608-6	SW01	Soluble	Solid	300.0	12936
890-1608-7	SW02	Soluble	Solid	300.0	12936
890-1608-8	SW03	Soluble	Solid	300.0	12936
MB 880-12936/1-A	Method Blank	Soluble	Solid	300.0	12936
LCS 880-12936/2-A	Lab Control Sample	Soluble	Solid	300.0	12936
LCSD 880-12936/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12936
890-1604-A-1-I MS	Matrix Spike	Soluble	Solid	300.0	12936
890-1604-A-1-J MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12936

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: FS01

Lab Sample ID: 890-1608-1

Date Collected: 11/18/21 15:33

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	12796	11/22/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12902	11/22/21 13:07	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 13:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10.02 mL	12847	11/22/21 08:30	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			12853	11/22/21 12:12	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	12936	11/22/21 12:15	CA	XEN MID
Soluble	Analysis	300.0		1			12958	11/22/21 17:47	SC	XEN MID

Client Sample ID: FS02

Lab Sample ID: 890-1608-2

Date Collected: 11/18/21 15:30

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	12796	11/22/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12902	11/22/21 13:27	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 13:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10.02 mL	12847	11/22/21 08:30	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			12853	11/22/21 13:15	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	12936	11/22/21 12:15	CA	XEN MID
Soluble	Analysis	300.0		1			12958	11/22/21 18:09	SC	XEN MID

Client Sample ID: FS03

Lab Sample ID: 890-1608-3

Date Collected: 11/18/21 15:08

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	12796	11/22/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12902	11/22/21 13:48	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 13:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10.03 mL	12847	11/22/21 08:30	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			12853	11/22/21 13:37	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	12936	11/22/21 12:15	CA	XEN MID
Soluble	Analysis	300.0		1			12958	11/22/21 18:16	SC	XEN MID

Client Sample ID: FS04

Lab Sample ID: 890-1608-4

Date Collected: 11/18/21 15:14

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	12796	11/22/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12902	11/22/21 14:08	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 13:36	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: FS04

Lab Sample ID: 890-1608-4

Date Collected: 11/18/21 15:14

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10.02 mL	12847	11/22/21 08:30	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			12853	11/22/21 13:58	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	12936	11/22/21 12:15	CA	XEN MID
Soluble	Analysis	300.0		1			12958	11/22/21 18:23	SC	XEN MID

Client Sample ID: FS05

Lab Sample ID: 890-1608-5

Date Collected: 11/18/21 15:19

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	12796	11/22/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12902	11/22/21 14:29	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 13:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	12848	11/21/21 12:42	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			12855	11/22/21 12:12	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	12936	11/22/21 12:15	CA	XEN MID
Soluble	Analysis	300.0		1			12958	11/22/21 18:31	SC	XEN MID

Client Sample ID: SW01

Lab Sample ID: 890-1608-6

Date Collected: 11/18/21 15:25

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	12796	11/22/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12902	11/22/21 14:49	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 13:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	12848	11/21/21 12:42	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			12855	11/22/21 13:15	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	12936	11/22/21 12:15	CA	XEN MID
Soluble	Analysis	300.0		5			12958	11/22/21 18:38	SC	XEN MID

Client Sample ID: SW02

Lab Sample ID: 890-1608-7

Date Collected: 11/18/21 15:38

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	12796	11/22/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12902	11/22/21 15:09	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 13:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	12848	11/21/21 12:42	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			12855	11/22/21 13:37	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Client Sample ID: SW02

Lab Sample ID: 890-1608-7

Date Collected: 11/18/21 15:38

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	12936	11/22/21 12:15	CA	XEN MID
Soluble	Analysis	300.0		1			12958	11/22/21 18:46	SC	XEN MID

Client Sample ID: SW03

Lab Sample ID: 890-1608-8

Date Collected: 11/18/21 15:45

Matrix: Solid

Date Received: 11/19/21 14:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	12796	11/22/21 08:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12902	11/22/21 15:30	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/22/21 13:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	12848	11/21/21 12:42	AJ	XEN MID
Total/NA	Analysis	8015B NM		1			12855	11/22/21 13:58	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	12936	11/22/21 12:15	CA	XEN MID
Soluble	Analysis	300.0		1			12958	11/22/21 18:53	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

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.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 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, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: WSP USA Inc.
Project/Site: Black River 4H

Job ID: 890-1608-1
SDG: 31403152.007 tASK 02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1608-1	FS01	Solid	11/18/21 15:33	11/19/21 14:10	4.5
890-1608-2	FS02	Solid	11/18/21 15:30	11/19/21 14:10	4.5
890-1608-3	FS03	Solid	11/18/21 15:08	11/19/21 14:10	4.5
890-1608-4	FS04	Solid	11/18/21 15:14	11/19/21 14:10	4.5
890-1608-5	FS05	Solid	11/18/21 15:19	11/19/21 14:10	4.5
890-1608-6	SW01	Solid	11/18/21 15:25	11/19/21 14:10	0 - 4.5
890-1608-7	SW02	Solid	11/18/21 15:38	11/19/21 14:10	0 - 4.5
890-1608-8	SW03	Solid	11/18/21 15:45	11/19/21 14:10	0 - 4.5



Chain of Custody

Work Order No: _____

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296

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Page 4 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)
Company Name:	WSP USA Inc.	Company Name:
Address:	3300 North A Street	Address:
City, State ZIP:	Midland, TX 79705	City, State ZIP:
Phone:	432.236.3849	Email: luis.delval@wsp.com; joe.hernandez@wsp.com

Program: <input type="checkbox"/> UST/PT <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund State of Project:	
Reporting Level II <input type="checkbox"/>	Level III <input type="checkbox"/>
ST/UST <input type="checkbox"/>	RP <input type="checkbox"/>
Deliverables: EDD <input type="checkbox"/>	ADAPT <input type="checkbox"/>
Other: <input type="checkbox"/>	

Project Name:	Black River 4H	Turn Around	<input type="checkbox"/>
Project Number:	31403152.007 - Task 02	Routine	<input type="checkbox"/>
P.O. Number:	Cost Center: CL 21.02649	Rush: 84 hr	
Sampler's Name:	Luis Del Val	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Wet Ice:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Temperature (°C):	4.2/4.0	Thermometer ID: TMM-007				
Received In tact:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Correction Factor: -0.2			
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Total Containers:			
Sample Custody Seals:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>				



890-1608 Chain of Custody

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST																Sample Comments
FS01	S	11/18/2021	1533	4.5'	1	X	X	X	X												
FS02	S	11/18/2021	1530	4.5'	1	X	X	X	X												
FS03	S	11/18/2021	1508	4.5'	1	X	X	X	X												
FS04	S	11/18/2021	1514	4.5'	1	X	X	X	X												
FS05	S	11/18/2021	1519	4.5'	1	X	X	X	X												
SW01	S	11/18/2021	1525	0-4.5'	1	X	X	X	X												
SW02	S	11/18/2021	1538	0-4.5'	1	X	X	X	X												
SW03	S	11/18/2021	1545	0-4.5'	1	X	X	X	X												

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	11-19-21 1410			

Eurofins Xenco, Carlsbad

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

Chain of Custody Record



Environment Testing America

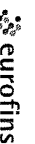
Client Information (Sub Contract Lab)						Sampler	Lab PM	Carrier Tracking No(s)	COC No								
Client Contact:						Kramer, Jessica			890-517 1								
Shipping/Receiving						E-Mail: jessica.kramer@eurofinsnet.com	State of Origin: New Mexico	Page 1 of 1									
Company: Eurofins Xenco						Accreditations Required (See note): NELAP - Louisiana NELAP - Texas			Job #: 890-1608-1								
Address: 1211 W Florida Ave						Due Date Requested: 11/22/2021											
City: Midland						TAT Requested (days):											
State Zip: TX 79701																	
Phone: 432-704-5440(Tel)						PO #:											
Email:						MO #:											
Project Name: Black Riverd 4H						Project #: 89000048											
Site:						SSOW#:											
Sample Identification - Client ID (Lab ID)						Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Solid, O=Residual, BT=Tissue, AA=AI)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note.				
FS01 (890-1608-1)						11/18/21	15 33	Mountain	Solid	X	X	X	X	X	1		
FS02 (890-1608-2)						11/18/21	15 30	Mountain	Solid	X	X	X	X	X	1		
FS03 (890-1608-3)						11/18/21	15 08	Mountain	Solid	X	X	X	X	X	1		
FS04 (890-1608-4)						11/18/21	15 14	Mountain	Solid	X	X	X	X	X	1		
FS05 (890-1608-5)						11/18/21	15 19	Mountain	Solid	X	X	X	X	X	1		
SW01 (890-1608-6)						11/18/21	15 25	Mountain	Solid	X	X	X	X	X	1		
SW02 (890-1608-7)						11/18/21	15 38	Mountain	Solid	X	X	X	X	X	1		
SW03 (890-1608-8)						11/18/21	15 45	Mountain	Solid	X	X	X	X	X	1		
Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of origin listed above for analysis/testing/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.																	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Deliverable Requested I II III IV Other (specify)						Primary Deliverable Rank 2						Special Instructions/QC Requirements					
Empty Kit Relinquished by						Date	Time	Method of Shipment:									
Relinquished by						Date/Time		Company		Received by	Date/Time		Company				
Relinquished by						Date/Time		Company		Received by	Date/Time		Company				
Relinquished by						Date/Time		Company		Received by	Date/Time		Company				
Custody Seals Intact.						Custody Seal No						Cooler Temperature(s) °C and Other Remarks.					
Δ Yes Δ No												4.3/4.3					

Eurofins Xenco, Carlsbad

1089 N Canal St
Carlsbad NM 88220

Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

Environment Testing
America

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No
Client Contact:	Phone	Kramer, Jessica	State of Origin	890-517 1	Page 1 of 1
Shipping/Receiving	E-Mail	jessica.kramer@eurofins.com	New Mexico		
Company	Accreditations Required (See note)	NE LAP - Louisiana, NE LAP - Texas	Job #	890-1608-1	
Address	Due Date Requested	11/22/2021	Preservation Codes		
City	TAT Requested (days):	7	A. HCL B. NaOH C. Zn Acetate D. Nitric Acid E. NaHSO4 F. MeOH G. Anchlor H. Ascorbic Acid I. Ice J. DI Water K. EDTA L. EDA Other:		
Midland	PO #		M. Hexane N. None O. AsNaO2 P. Na2CO3 Q. Na2SO3 R. Na2S2O3 S. H2SO4 T. TSP Decahydrate U. Acetone V. MCAA W. pH 4-5 Z. Other (specify)		
State, Zip:	WO #				
TX 79701	Project #	89000048			
Phone	SSOW#				
432-704-5440(Tel)					
Email					
Project Name					
Black Riverdr 4H					
Site					

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Solid, O=Waste/Oil, BT=Tissue, Anal)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of containers	Special Instructions/Note:
FS01 (890-1608-1)	11/18/21	15 33	Mountain	Solid	X	X	8016MOD_NM/8016NM_S_Prep Full TPH	X	
FS02 (890-1608-2)	11/18/21	15 30	Mountain	Solid	X	X	300_ORGFM_28D/DI_LEACH Chloride	X	
FS03 (890-1608-3)	11/18/21	15 08	Mountain	Solid	X	X	8021B/6036FP_Calc BTEX	X	
FS04 (890-1608-4)	11/18/21	15 14	Mountain	Solid	X	X	Total_BTEX_GCV	X	
FS05 (890-1608-5)	11/18/21	15 19	Mountain	Solid	X	X	8016MOD_Calc	X	
SW01 (890-1608-6)	11/18/21	15 25	Mountain	Solid	X	X		X	
SW02 (890-1608-7)	11/18/21	15 38	Mountain	Solid	X	X		X	
SW03 (890-1608-8)	11/18/21	15 45	Mountain	Solid	X	X		X	

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

Possible Hazard Identification

Unconfirmed

Deliverable Requested I II III IV Other (specify)

Primary Deliverable Rank: 2

Special Instructions/QAC Requirements

Empty Kit Relinquished by

Relinquished by

Relinquished by

Relinquished by

Custody Seals Intact

Δ Yes Δ No

Custody Seal No

Cooler Temperature(s) °C and Other Remarks:

4.3/4.3

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1608-1

SDG Number: 31403152.007 tASK 02

Login Number: 1608

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: 890-1608-1

SDG Number: 31403152.007 tASK 02

Login Number: 1608

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

List Creation: 11/22/21 08:09 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2/4.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1610-1

Laboratory Sample Delivery Group: 31403152.007

Client Project/Site: Black River 4h

For:

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

Attn: Kalei Jennings

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

Authorized for release by:
11/23/2021 7:37:46 PM

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

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

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

Client: WSP USA Inc.
Project/Site: Black River 4h

Laboratory Job ID: 890-1610-1
SDG: 31403152.007

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

Job ID: 890-1610-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-1610-1****Receipt**

The sample was received on 11/22/2021 10:10 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: An incorrect volume of surrogate spiking solution was inadvertently added the following samples: (LCS 880-13010/2-A) and (LCSD 880-13010/3-A). Percent recoveries are based on the amount spiked. MS/MSD were acceptable.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-13010 and analytical batch 880-13046 was outside the upper control limits.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-12589 and 880-12589 and analytical batch 880-12961 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. The associated samples are: FS06 (890-1610-1), (890-1573-A-31-G), (890-1573-A-31-H MS) and (890-1573-A-31-I MSD).

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: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

Client Sample ID: FS06

Lab Sample ID: 890-1610-1

Date Collected: 11/19/21 16:02

Matrix: Solid

Date Received: 11/22/21 10:10

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		11/23/21 08:15	11/23/21 16:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:15	11/23/21 16:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:15	11/23/21 16:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/23/21 08:15	11/23/21 16:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:15	11/23/21 16:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/23/21 08:15	11/23/21 16:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	11/23/21 08:15	11/23/21 16:14	1
1,4-Difluorobenzene (Surr)	107		70 - 130	11/23/21 08:15	11/23/21 16:14	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			11/23/21 12:11	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			11/23/21 08:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/23/21 08:57	11/23/21 14:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/23/21 08:57	11/23/21 14:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/23/21 08:57	11/23/21 14:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	11/23/21 08:57	11/23/21 14:56	1
o-Terphenyl	113		70 - 130	11/23/21 08:57	11/23/21 14:56	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3120		25.0	mg/Kg			11/23/21 17:15	5

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-8509-A-21-I MS	Matrix Spike	128	86
880-8509-A-21-J MSD	Matrix Spike Duplicate	111	104
890-1610-1	FS06	112	107
LCS 880-12798/1-A	Lab Control Sample	104	100
LCSD 880-12798/2-A	Lab Control Sample Dup	107	104
MB 880-12798/5-A	Method Blank	106	99
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1602-A-11-H MS	Matrix Spike	97	88
890-1602-A-11-I MSD	Matrix Spike Duplicate	100	89
890-1610-1	FS06	111	113
LCS 880-13010/2-A	Lab Control Sample	309 S1+	300 S1+
LCSD 880-13010/3-A	Lab Control Sample Dup	301 S1+	292 S1+
MB 880-13010/1-A	Method Blank	141 S1+	141 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-12798/5-A

Matrix: Solid

Analysis Batch: 12991

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 12798

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:15	11/23/21 11:26	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:15	11/23/21 11:26	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:15	11/23/21 11:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/23/21 08:15	11/23/21 11:26	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 08:15	11/23/21 11:26	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/23/21 08:15	11/23/21 11:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	11/23/21 08:15	11/23/21 11:26	1
1,4-Difluorobenzene (Surr)	99		70 - 130	11/23/21 08:15	11/23/21 11:26	1

Lab Sample ID: LCS 880-12798/1-A

Matrix: Solid

Analysis Batch: 12991

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 12798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09400		mg/Kg		94	70 - 130
Toluene	0.100	0.08963		mg/Kg		90	70 - 130
Ethylbenzene	0.100	0.08826		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	0.200	0.1861		mg/Kg		93	70 - 130
o-Xylene	0.100	0.09220		mg/Kg		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: LCSD 880-12798/2-A

Matrix: Solid

Analysis Batch: 12991

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 12798

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09642		mg/Kg		96	70 - 130	3	35
Toluene	0.100	0.09139		mg/Kg		91	70 - 130	2	35
Ethylbenzene	0.100	0.09158		mg/Kg		92	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1917		mg/Kg		96	70 - 130	3	35
o-Xylene	0.100	0.09431		mg/Kg		94	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 880-8509-A-21-I MS

Matrix: Solid

Analysis Batch: 12991

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12798

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F1 F2	0.0998	0.01923	F1	mg/Kg		18	70 - 130
Toluene	<0.00199	U F1 F2	0.0998	0.02465	F1	mg/Kg		24	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

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

Lab Sample ID: 880-8509-A-21-I MS

Matrix: Solid

Analysis Batch: 12991

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 12798

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U F1 F2	0.0998	0.02735	F1	mg/Kg		26	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.200	0.04375	F1	mg/Kg		22	70 - 130
o-Xylene	<0.00199	U F1	0.0998	0.03361	F1	mg/Kg		32	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	128		70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: 880-8509-A-21-J MSD

Matrix: Solid

Analysis Batch: 12991

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 12798

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1 F2	0.101	0.06006	F1 F2	mg/Kg		59	70 - 130	103	35
Toluene	<0.00199	U F1 F2	0.101	0.04947	F1 F2	mg/Kg		49	70 - 130	67	35
Ethylbenzene	<0.00199	U F1 F2	0.101	0.04158	F1 F2	mg/Kg		40	70 - 130	41	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.201	0.08518	F1 F2	mg/Kg		42	70 - 130	64	35
o-Xylene	<0.00199	U F1	0.101	0.04121	F1	mg/Kg		39	70 - 130	20	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

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

Lab Sample ID: MB 880-13010/1-A

Matrix: Solid

Analysis Batch: 13046

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13010

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		11/23/21 08:57	11/23/21 11:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/23/21 08:57	11/23/21 11:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/23/21 08:57	11/23/21 11:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	141	S1+	70 - 130	11/23/21 08:57	11/23/21 11:43	1
o-Terphenyl	141	S1+	70 - 130	11/23/21 08:57	11/23/21 11:43	1

Lab Sample ID: LCS 880-13010/2-A

Matrix: Solid

Analysis Batch: 13046

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 13010

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1147		mg/Kg		115	70 - 130
Diesel Range Organics (Over C10-C28)	1000	972.6		mg/Kg		97	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

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

Lab Sample ID: LCS 880-13010/2-A

Matrix: Solid

Analysis Batch: 13046

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 13010

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	309	S1+	70 - 130
o-Terphenyl	300	S1+	70 - 130

Lab Sample ID: LCSD 880-13010/3-A

Matrix: Solid

Analysis Batch: 13046

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 13010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1237		mg/Kg		124	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	940.4		mg/Kg		94	70 - 130	3	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	301	S1+	70 - 130
o-Terphenyl	292	S1+	70 - 130

Lab Sample ID: 890-1602-A-11-H MS

Matrix: Solid

Analysis Batch: 13046

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 13010

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1281		mg/Kg		129	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1005		mg/Kg		101	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	88		70 - 130

Lab Sample ID: 890-1602-A-11-I MSD

Matrix: Solid

Analysis Batch: 13046

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 13010

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	1182		mg/Kg		118	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1033		mg/Kg		103	70 - 130	3	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	89		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-12589/1-A

Matrix: Solid

Analysis Batch: 12961

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			11/23/21 11:07	1

Lab Sample ID: LCS 880-12589/2-A

Matrix: Solid

Analysis Batch: 12961

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	256.5		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-12589/3-A

Matrix: Solid

Analysis Batch: 12961

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	256.4		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-1573-A-31-H MS

Matrix: Solid

Analysis Batch: 12961

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	388	F1	250	608.2	F1	mg/Kg		88	90 - 110

Lab Sample ID: 890-1573-A-31-I MSD

Matrix: Solid

Analysis Batch: 12961

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	388	F1	250	608.7	F1	mg/Kg		88	90 - 110	0	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

GC VOA

Prep Batch: 12798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1610-1	FS06	Total/NA	Solid	5035	
MB 880-12798/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-12798/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-12798/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-8509-A-21-I MS	Matrix Spike	Total/NA	Solid	5035	
880-8509-A-21-J MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 12945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1610-1	FS06	Total/NA	Solid	Total BTEX	

Analysis Batch: 12991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1610-1	FS06	Total/NA	Solid	8021B	12798
MB 880-12798/5-A	Method Blank	Total/NA	Solid	8021B	12798
LCS 880-12798/1-A	Lab Control Sample	Total/NA	Solid	8021B	12798
LCSD 880-12798/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	12798
880-8509-A-21-I MS	Matrix Spike	Total/NA	Solid	8021B	12798
880-8509-A-21-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	12798

GC Semi VOA

Analysis Batch: 12781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1610-1	FS06	Total/NA	Solid	8015 NM	

Prep Batch: 13010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1610-1	FS06	Total/NA	Solid	8015NM Prep	
MB 880-13010/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-13010/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-13010/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1602-A-11-H MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1602-A-11-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 13046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1610-1	FS06	Total/NA	Solid	8015B NM	13010
MB 880-13010/1-A	Method Blank	Total/NA	Solid	8015B NM	13010
LCS 880-13010/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	13010
LCSD 880-13010/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	13010
890-1602-A-11-H MS	Matrix Spike	Total/NA	Solid	8015B NM	13010
890-1602-A-11-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	13010

HPLC/IC

Leach Batch: 12589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1610-1	FS06	Soluble	Solid	DI Leach	
MB 880-12589/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12589/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12589/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

HPLC/IC (Continued)

Leach Batch: 12589 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1573-A-31-H MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1573-A-31-I MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 12961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1610-1	FS06	Soluble	Solid	300.0	12589
MB 880-12589/1-A	Method Blank	Soluble	Solid	300.0	12589
LCS 880-12589/2-A	Lab Control Sample	Soluble	Solid	300.0	12589
LCSD 880-12589/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12589
890-1573-A-31-H MS	Matrix Spike	Soluble	Solid	300.0	12589
890-1573-A-31-I MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12589

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

Client Sample ID: FS06
Date Collected: 11/19/21 16:02
Date Received: 11/22/21 10:10

Lab Sample ID: 890-1610-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	12798	11/23/21 08:15	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	12991	11/23/21 16:14	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			12945	11/23/21 12:11	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			12781	11/23/21 08:35	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	13010	11/23/21 08:57	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13046	11/23/21 14:56	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	12589	11/23/21 12:59	CA	XEN MID
Soluble	Analysis	300.0		5			12961	11/23/21 17:15	SC	XEN MID

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

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.
Project/Site: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

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: Black River 4h

Job ID: 890-1610-1
SDG: 31403152.007

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1610-1	FS06	Solid	11/19/21 16:02	11/22/21 10:10	1

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



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 505-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing

Xenco

Work Order No:

www.xenco.com

Page

of

Project Manager: **Joseph Hernandez**
Company Name: **WSP**
Address: **3300 North A Street**
City, State ZIP: **Midland, TX 79705**
Phone: **(281) 702-2329**
Email: **joe.hernandez@wsp.com**

Bill to: (if different)
Company Name:
Address:
City, State ZIP:

Turn Around:
☐ Routine ☒ Rush
Due Date: **11/23/21**
TAT starts the day received by the lab, if received by 4:30pm

Temp Blank: ☒ Yes ☒ No
Thermometer ID: **TM-007**
Correction Factor: **-0.2**
Temperature Reading: **1.4**
Corrected Temperature: **1.2**

Samples Received Intact: ☒ Yes ☒ No
Cooler Custody Seals: ☒ Yes ☒ No
Sample Custody Seals: ☒ Yes ☒ No
Total Containers: **1**

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

Project Name: **Black River 4H**
Project Number: **31403152.007**
Project Location: **Eddy County**
Sampler's Name: **Anna Byers**
P.O. #: **CC: 01.21.02649**

ANALYSIS REQUEST

Pres. Code

Parameters

of Cont

Grab/Comp

Time Sampled

Date Sampled

Matrix

Sample Identification

Sample Comments

Incident #: **nAPP 2128544986**

Task 02

Preservative Codes

None: NO
Cool: Cool
HCL: HC
H₂SO₄: H₂
H₃PO₄: HP
NaHSO₄: NABIS
Na₂S₂O₃: NaSO₃
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

DI Water: H₂O
MeOH: Me
HNO₃: HN
NaOH: Na

890-1610 Chain of Custody

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature) **Joe Lopez** Received by: (Signature) **Joe Lopez** Date/Time **11-22-21 10:00**

1 **Joe Lopez**

3

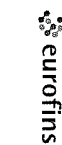
5

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Xenco, Carlsbad

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

Chain of Custody Record



Environment Testing America

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1610-1

SDG Number: 31403152.007

Login Number: 1610

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: 890-1610-1

SDG Number: 31403152.007

Login Number: 1610

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

List Creation: 11/23/21 12:51 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1611-1
Laboratory Sample Delivery Group: Eddy County
Client Project/Site: Black River 4h

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

Attn: Joseph Hernandez

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

Authorized for release by:
12/3/2021 3:32:51 PM

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

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

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

Client: WSP USA Inc.
Project/Site: Black River 4h

Laboratory Job ID: 890-1611-1
SDG: Eddy County

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Job ID: 890-1611-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-1611-1****Receipt**

The samples were received on 11/22/2021 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH02 (890-1611-1), PH03 (890-1611-2), PH04 (890-1611-3), PH05 (890-1611-4), PH06 (890-1611-5), (MB 880-13088/1-A) and (880-8632-A-1-D). Evidence of matrix interferences is not obvious.

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Client Sample ID: PH02

Lab Sample ID: 890-1611-1

Date Collected: 11/19/21 10:10

Matrix: Solid

Date Received: 11/22/21 10:10

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		11/23/21 12:37	11/24/21 16:33	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 16:33	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 16:33	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		11/23/21 12:37	11/24/21 16:33	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 16:33	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		11/23/21 12:37	11/24/21 16:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	157	S1+	70 - 130	11/23/21 12:37	11/24/21 16:33	1
1,4-Difluorobenzene (Surr)	89		70 - 130	11/23/21 12:37	11/24/21 16:33	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			11/30/21 15:30	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			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/23/21 14:30	11/24/21 05:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/23/21 14:30	11/24/21 05:15	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/23/21 14:30	11/24/21 05:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130	11/23/21 14:30	11/24/21 05:15	1
o-Terphenyl	168	S1+	70 - 130	11/23/21 14:30	11/24/21 05:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44.2		4.95	mg/Kg			12/03/21 02:57	1

Client Sample ID: PH03

Lab Sample ID: 890-1611-2

Date Collected: 11/19/21 10:54

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/23/21 12:37	11/24/21 17:00	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/23/21 12:37	11/24/21 17:00	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/23/21 12:37	11/24/21 17:00	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/23/21 12:37	11/24/21 17:00	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/23/21 12:37	11/24/21 17:00	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/23/21 12:37	11/24/21 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	11/23/21 12:37	11/24/21 17:00	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Client Sample ID: PH03

Lab Sample ID: 890-1611-2

Date Collected: 11/19/21 10:54

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	91		70 - 130	11/23/21 12:37	11/24/21 17:00	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/30/21 15:30	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			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/23/21 14:30	11/24/21 05:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/23/21 14:30	11/24/21 05:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/23/21 14:30	11/24/21 05:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	126		70 - 130			11/23/21 14:30	11/24/21 05:37	1
o-Terphenyl	145	S1+	70 - 130			11/23/21 14:30	11/24/21 05:37	

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	54.9		4.95	mg/Kg			12/03/21 03:08	1

Client Sample ID: PH04

Lab Sample ID: 890-1611-3

Date Collected: 11/19/21 11:40

Matrix: Solid

Date Received: 11/22/21 10:10

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		11/23/21 12:37	11/24/21 17:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 17:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 17:27	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/23/21 12:37	11/24/21 17:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 17:27	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/23/21 12:37	11/24/21 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	11/23/21 12:37	11/24/21 17:27	1
1,4-Difluorobenzene (Surr)	90		70 - 130	11/23/21 12:37	11/24/21 17:27	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			11/30/21 15:30	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			12/01/21 20:09	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Client Sample ID: PH04

Lab Sample ID: 890-1611-3

Date Collected: 11/19/21 11:40

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 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		11/23/21 14:30	11/24/21 05:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/23/21 14:30	11/24/21 05:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/23/21 14:30	11/24/21 05:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	125		70 - 130			11/23/21 14:30	11/24/21 05:59	1
o-Terphenyl	145	S1+	70 - 130			11/23/21 14:30	11/24/21 05:59	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	126		5.03	mg/Kg			12/03/21 03:19	1

Client Sample ID: PH05

Lab Sample ID: 890-1611-4

Date Collected: 11/19/21 14:54

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		11/23/21 12:37	11/24/21 17:54	1
Toluene	<0.00202	U	0.00202	mg/Kg		11/23/21 12:37	11/24/21 17:54	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		11/23/21 12:37	11/24/21 17:54	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		11/23/21 12:37	11/24/21 17:54	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		11/23/21 12:37	11/24/21 17:54	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		11/23/21 12:37	11/24/21 17:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130			11/23/21 12:37	11/24/21 17:54	1
1,4-Difluorobenzene (Surr)	92		70 - 130			11/23/21 12:37	11/24/21 17:54	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			11/30/21 15:30	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			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/23/21 14:30	11/24/21 06:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/23/21 14:30	11/24/21 06:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/23/21 14:30	11/24/21 06:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130			11/23/21 14:30	11/24/21 06:21	1
o-Terphenyl	141	S1+	70 - 130			11/23/21 14:30	11/24/21 06:21	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Client Sample ID: PH05

Lab Sample ID: 890-1611-4

Date Collected: 11/19/21 14:54

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.9		4.98	mg/Kg			12/03/21 03:31	1

Client Sample ID: PH06

Lab Sample ID: 890-1611-5

Date Collected: 11/19/21 15:50

Matrix: Solid

Date Received: 11/22/21 10:10

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		11/23/21 12:37	11/24/21 18:20	1
Toluene	<0.00201	U	0.00201	mg/Kg		11/23/21 12:37	11/24/21 18:20	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		11/23/21 12:37	11/24/21 18:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		11/23/21 12:37	11/24/21 18:20	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		11/23/21 12:37	11/24/21 18:20	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		11/23/21 12:37	11/24/21 18:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130			11/23/21 12:37	11/24/21 18:20	1
1,4-Difluorobenzene (Surr)	107		70 - 130			11/23/21 12:37	11/24/21 18:20	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			11/30/21 15:30	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/23/21 14:30	11/24/21 06:43	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/23/21 14:30	11/24/21 06:43	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/23/21 14:30	11/24/21 06:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	126		70 - 130			11/23/21 14:30	11/24/21 06:43	1
o-Terphenyl	147	S1+	70 - 130			11/23/21 14:30	11/24/21 06:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			12/03/21 03:42	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1606-A-1-E MS	Matrix Spike	125	102
890-1606-A-1-F MSD	Matrix Spike Duplicate	119	95
890-1611-1	PH02	157 S1+	89
890-1611-2	PH03	115	91
890-1611-3	PH04	115	90
890-1611-4	PH05	102	92
890-1611-5	PH06	104	107
LCS 880-13076/1-A	Lab Control Sample	107	104
LCSD 880-13076/2-A	Lab Control Sample Dup	109	106
MB 880-13076/5-A	Method Blank	72	96
MB 880-13087/5-A	Method Blank	71	97
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-8632-A-1-E MS	Matrix Spike	121	116
880-8632-A-1-F MSD	Matrix Spike Duplicate	123	119
890-1611-1	PH02	142 S1+	168 S1+
890-1611-2	PH03	126	145 S1+
890-1611-3	PH04	125	145 S1+
890-1611-4	PH05	124	141 S1+
890-1611-5	PH06	126	147 S1+
LCS 880-13088/2-A	Lab Control Sample	124	129
LCSD 880-13088/3-A	Lab Control Sample Dup	117	123
MB 880-13088/1-A	Method Blank	148 S1+	171 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-13076/5-A

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13076

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/23/21 12:37	11/24/21 10:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130	11/23/21 12:37	11/24/21 10:17	1
1,4-Difluorobenzene (Surr)	96		70 - 130	11/23/21 12:37	11/24/21 10:17	1

Lab Sample ID: LCS 880-13076/1-A

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08609		mg/Kg		86	70 - 130
Toluene	0.100	0.08085		mg/Kg		81	70 - 130
Ethylbenzene	0.100	0.07935		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	0.200	0.1753		mg/Kg		88	70 - 130
o-Xylene	0.100	0.08509		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-13076/2-A

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.08998		mg/Kg		90	70 - 130	4	35
Toluene	0.100	0.08514		mg/Kg		85	70 - 130	5	35
Ethylbenzene	0.100	0.08446		mg/Kg		84	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1876		mg/Kg		94	70 - 130	7	35
o-Xylene	0.100	0.09093		mg/Kg		91	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 890-1606-A-1-E MS

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00198	U F1	0.0996	0.05858	F1	mg/Kg		59	70 - 130
Toluene	<0.00198	U F1	0.0996	0.06553	F1	mg/Kg		66	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

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

Lab Sample ID: 890-1606-A-1-E MS

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00198	U F1	0.0996	0.06470	F1	mg/Kg		65	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.199	0.1440		mg/Kg		72	70 - 130
o-Xylene	<0.00198	U F1	0.0996	0.06394	F1	mg/Kg		64	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	125		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-1606-A-1-F MSD

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U F1	0.100	0.05973	F1	mg/Kg		60	70 - 130	2	35
Toluene	<0.00198	U F1	0.100	0.06784	F1	mg/Kg		68	70 - 130	3	35
Ethylbenzene	<0.00198	U F1	0.100	0.06693	F1	mg/Kg		67	70 - 130	3	35
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1488		mg/Kg		74	70 - 130	3	35
o-Xylene	<0.00198	U F1	0.100	0.06867	F1	mg/Kg		69	70 - 130	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: MB 880-13087/5-A

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13087

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/23/21 14:25	11/23/21 19:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	11/23/21 14:25	11/23/21 19:58	1
1,4-Difluorobenzene (Surr)	97		70 - 130	11/23/21 14:25	11/23/21 19:58	1

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

Lab Sample ID: MB 880-13088/1-A

Matrix: Solid

Analysis Batch: 13043

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13088

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		11/23/21 14:30	11/23/21 21:25	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

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

Lab Sample ID: MB 880-13088/1-A

Matrix: Solid

Analysis Batch: 13043

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13088

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/23/21 14:30	11/23/21 21:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/23/21 14:30	11/23/21 21:25	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	148	S1+	70 - 130			11/23/21 14:30	11/23/21 21:25	1
o-Terphenyl	171	S1+	70 - 130			11/23/21 14:30	11/23/21 21:25	1

Lab Sample ID: LCS 880-13088/2-A

Matrix: Solid

Analysis Batch: 13043

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 13088

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	919.5		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1277		mg/Kg		128	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	124		70 - 130				
o-Terphenyl	129		70 - 130				

Lab Sample ID: LCSD 880-13088/3-A

Matrix: Solid

Analysis Batch: 13043

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 13088

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	927.0		mg/Kg		93	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	1254		mg/Kg		125	70 - 130	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	117		70 - 130						
o-Terphenyl	123		70 - 130						

Lab Sample ID: 880-8632-A-1-E MS

Matrix: Solid

Analysis Batch: 13043

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 13088

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1175		mg/Kg		118	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1137		mg/Kg		111	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	121		70 - 130						
o-Terphenyl	116		70 - 130						

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

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

Lab Sample ID: 880-8632-A-1-F MSD

Matrix: Solid

Analysis Batch: 13043

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 13088

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	1191		mg/Kg		119	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1181		mg/Kg		115	70 - 130	4	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	123		70 - 130								
o-Terphenyl	119		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-13079/1-A

Matrix: Solid

Analysis Batch: 13774

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			12/03/21 00:28	1

Lab Sample ID: LCS 880-13079/2-A

Matrix: Solid

Analysis Batch: 13774

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	245.7		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-13079/3-A

Matrix: Solid

Analysis Batch: 13774

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	240.5		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 890-1611-5 MS

Matrix: Solid

Analysis Batch: 13774

Client Sample ID: PH06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<5.00	U	250	269.9		mg/Kg		107	90 - 110

Lab Sample ID: 890-1611-5 MSD

Matrix: Solid

Analysis Batch: 13774

Client Sample ID: PH06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<5.00	U	250	271.7		mg/Kg		107	90 - 110	1	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

GC VOA

Prep Batch: 13076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1611-1	PH02	Total/NA	Solid	5035	
890-1611-2	PH03	Total/NA	Solid	5035	
890-1611-3	PH04	Total/NA	Solid	5035	
890-1611-4	PH05	Total/NA	Solid	5035	
890-1611-5	PH06	Total/NA	Solid	5035	
MB 880-13076/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-13076/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-13076/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1606-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-1606-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 13087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-13087/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 13097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1611-1	PH02	Total/NA	Solid	8021B	13076
890-1611-2	PH03	Total/NA	Solid	8021B	13076
890-1611-3	PH04	Total/NA	Solid	8021B	13076
890-1611-4	PH05	Total/NA	Solid	8021B	13076
890-1611-5	PH06	Total/NA	Solid	8021B	13076
MB 880-13076/5-A	Method Blank	Total/NA	Solid	8021B	13076
MB 880-13087/5-A	Method Blank	Total/NA	Solid	8021B	13087
LCS 880-13076/1-A	Lab Control Sample	Total/NA	Solid	8021B	13076
LCSD 880-13076/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	13076
890-1606-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	13076
890-1606-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	13076

Analysis Batch: 13453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1611-1	PH02	Total/NA	Solid	Total BTEX	
890-1611-2	PH03	Total/NA	Solid	Total BTEX	
890-1611-3	PH04	Total/NA	Solid	Total BTEX	
890-1611-4	PH05	Total/NA	Solid	Total BTEX	
890-1611-5	PH06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 13043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1611-1	PH02	Total/NA	Solid	8015B NM	13088
890-1611-2	PH03	Total/NA	Solid	8015B NM	13088
890-1611-3	PH04	Total/NA	Solid	8015B NM	13088
890-1611-4	PH05	Total/NA	Solid	8015B NM	13088
890-1611-5	PH06	Total/NA	Solid	8015B NM	13088
MB 880-13088/1-A	Method Blank	Total/NA	Solid	8015B NM	13088
LCS 880-13088/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	13088
LCSD 880-13088/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	13088
880-8632-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	13088
880-8632-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	13088

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

GC Semi VOA

Prep Batch: 13088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1611-1	PH02	Total/NA	Solid	8015NM Prep	
890-1611-2	PH03	Total/NA	Solid	8015NM Prep	
890-1611-3	PH04	Total/NA	Solid	8015NM Prep	
890-1611-4	PH05	Total/NA	Solid	8015NM Prep	
890-1611-5	PH06	Total/NA	Solid	8015NM Prep	
MB 880-13088/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-13088/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-13088/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-8632-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-8632-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 13711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1611-1	PH02	Total/NA	Solid	8015 NM	
890-1611-2	PH03	Total/NA	Solid	8015 NM	
890-1611-3	PH04	Total/NA	Solid	8015 NM	
890-1611-4	PH05	Total/NA	Solid	8015 NM	
890-1611-5	PH06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 13079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1611-1	PH02	Soluble	Solid	DI Leach	
890-1611-2	PH03	Soluble	Solid	DI Leach	
890-1611-3	PH04	Soluble	Solid	DI Leach	
890-1611-4	PH05	Soluble	Solid	DI Leach	
890-1611-5	PH06	Soluble	Solid	DI Leach	
MB 880-13079/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-13079/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-13079/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1611-5 MS	PH06	Soluble	Solid	DI Leach	
890-1611-5 MSD	PH06	Soluble	Solid	DI Leach	

Analysis Batch: 13774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1611-1	PH02	Soluble	Solid	300.0	13079
890-1611-2	PH03	Soluble	Solid	300.0	13079
890-1611-3	PH04	Soluble	Solid	300.0	13079
890-1611-4	PH05	Soluble	Solid	300.0	13079
890-1611-5	PH06	Soluble	Solid	300.0	13079
MB 880-13079/1-A	Method Blank	Soluble	Solid	300.0	13079
LCS 880-13079/2-A	Lab Control Sample	Soluble	Solid	300.0	13079
LCSD 880-13079/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	13079
890-1611-5 MS	PH06	Soluble	Solid	300.0	13079
890-1611-5 MSD	PH06	Soluble	Solid	300.0	13079

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Client Sample ID: PH02

Lab Sample ID: 890-1611-1

Date Collected: 11/19/21 10:10

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 16:33	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	13088	11/23/21 14:30	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13043	11/24/21 05:15	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 02:57	CH	XEN MID

Client Sample ID: PH03

Lab Sample ID: 890-1611-2

Date Collected: 11/19/21 10:54

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 17:00	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	13088	11/23/21 14:30	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13043	11/24/21 05:37	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 03:08	CH	XEN MID

Client Sample ID: PH04

Lab Sample ID: 890-1611-3

Date Collected: 11/19/21 11:40

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 17:27	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	13088	11/23/21 14:30	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13043	11/24/21 05:59	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 03:19	CH	XEN MID

Client Sample ID: PH05

Lab Sample ID: 890-1611-4

Date Collected: 11/19/21 14:54

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 17:54	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Client Sample ID: PH05

Lab Sample ID: 890-1611-4

Date Collected: 11/19/21 14:54

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	13088	11/23/21 14:30	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13043	11/24/21 06:21	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 03:31	CH	XEN MID

Client Sample ID: PH06

Lab Sample ID: 890-1611-5

Date Collected: 11/19/21 15:50

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 18:20	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	13088	11/23/21 14:30	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13043	11/24/21 06:43	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 03:42	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

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: Black River 4h

Job ID: 890-1611-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1611-1	PH02	Solid	11/19/21 10:10	11/22/21 10:10	1
890-1611-2	PH03	Solid	11/19/21 10:54	11/22/21 10:10	1
890-1611-3	PH04	Solid	11/19/21 11:40	11/22/21 10:10	1
890-1611-4	PH05	Solid	11/19/21 14:54	11/22/21 10:10	1
890-1611-5	PH06	Solid	11/19/21 15:50	11/22/21 10:10	1

Chain of Custody



Environment Testing

Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
 Midland, TX (432) 704-5440, San Antonio, TX (210) 508-3334
 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work-Order-No:

www.xenco.com Page 1 of 1

Project Manager: Joseph Hernandez	Bill to: (if different) Company Name: WSP	Work Order Comments Program: <input type="checkbox"/> UST/AST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
Company Name: WSP	Address: 3300 North A Street	State of Project: Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Address: Midland, TX 79705	City, State ZIP:	Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:
City, State ZIP: Midland, TX 79705	Email: joe.hernandez@wsp.com	
Phone: (281) 712-2329		

Project Name: Black River 4H		Turn Around		ANALYSIS REQUEST		Preservative Codes	
Project Number: 31403152.007	Due Date: 1/19/21	Routine <input checked="" type="checkbox"/>	Rush <input type="checkbox"/>	Pres. Code			
Project Location: Eddy County	TAT starts the day received by the lab, if received by 4:30pm						
Sampler's Name: Anna Byers	Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
PO #: CC: 01.24.02649	Thermometer ID: 0.2						
SAMPLE RECEIPT	Correction Factor: 1.4						
Samples Received Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading: 1.2						
Cooler Custody Seals: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Corrected Temperature: 1.2						
Sample Custody Seals: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Total Containers: 1-2							

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code
PH02	S	11/19/21	10:10	1'	Grab	1	TH (EPA 815 Mod)	
PH03	S	11/19/21	10:54	1'	Grab	1	BTEX (EPA 821 B)	
PH04	S	11/19/21	11:40	1'	Grab	1	Chloride (EPA 809.0)	
PH05	S	11/19/21	14:54	1'	Grab	1		
PH06	S	11/19/21	15:50	1'	Grab	1		
PH07	S	11/19/21	15:50	1'	Grab	1		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code
PH02	S	11/19/21	10:10	1'	Grab	1	TH (EPA 815 Mod)	
PH03	S	11/19/21	10:54	1'	Grab	1	BTEX (EPA 821 B)	
PH04	S	11/19/21	11:40	1'	Grab	1	Chloride (EPA 809.0)	
PH05	S	11/19/21	14:54	1'	Grab	1		
PH06	S	11/19/21	15:50	1'	Grab	1		
PH07	S	11/19/21	15:50	1'	Grab	1		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code
PH02	S	11/19/21	10:10	1'	Grab	1	TH (EPA 815 Mod)	
PH03	S	11/19/21	10:54	1'	Grab	1	BTEX (EPA 821 B)	
PH04	S	11/19/21	11:40	1'	Grab	1	Chloride (EPA 809.0)	
PH05	S	11/19/21	14:54	1'	Grab	1		
PH06	S	11/19/21	15:50	1'	Grab	1		
PH07	S	11/19/21	15:50	1'	Grab	1		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code
PH02	S	11/19/21	10:10	1'	Grab	1	TH (EPA 815 Mod)	
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PH04	S	11/19/21	11:40	1'	Grab	1	Chloride (EPA 809.0)	
PH05	S	11/19/21	14:54	1'	Grab	1		
PH06	S	11/19/21	15:50	1'	Grab	1		
PH07	S	11/19/21	15:50	1'	Grab	1		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code
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PH06	S	11/19/21	15:50	1'	Grab	1		
PH07	S	11/19/21	15:50	1'	Grab	1		

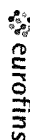
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Eurofins Xenco, Carlsbad

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

Chain of Custody Record



Environment Testing America

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1611-1

SDG Number: Eddy County

Login Number: 1611

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: 890-1611-1

SDG Number: Eddy County

Login Number: 1611

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

List Creation: 11/23/21 12:51 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1612-1

Laboratory Sample Delivery Group: Eddy County
Client Project/Site: Black River 4h

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
12/3/2021 4:33:40 PM

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

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

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

Client: WSP USA Inc.
Project/Site: Black River 4h

Laboratory Job ID: 890-1612-1
SDG: Eddy County

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Eurofins Xenco, Carlsbad

Case Narrative

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Job ID: 890-1612-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1612-1

Receipt
The samples were received on 11/22/2021 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

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

GC Semi VOA
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: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Client Sample ID: PH02

Lab Sample ID: 890-1612-1

Date Collected: 11/19/21 10:22

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 8

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 15:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 15:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 15:55	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		11/23/21 16:45	11/24/21 15:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 15:55	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		11/23/21 16:45	11/24/21 15:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	11/23/21 16:45	11/24/21 15:55	1
1,4-Difluorobenzene (Surr)	110		70 - 130	11/23/21 16:45	11/24/21 15:55	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			11/30/21 15:30	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/24/21 08:16	11/24/21 17:29	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/24/21 08:16	11/24/21 17:29	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/24/21 08:16	11/24/21 17:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	11/24/21 08:16	11/24/21 17:29	1
o-Terphenyl	111		70 - 130	11/24/21 08:16	11/24/21 17:29	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	142		50.1	mg/Kg			12/03/21 04:17	10

Client Sample ID: PH03

Lab Sample ID: 890-1612-2

Date Collected: 11/19/21 11:10

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 8

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 16:15	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 16:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 16:15	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		11/23/21 16:45	11/24/21 16:15	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 16:15	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		11/23/21 16:45	11/24/21 16:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	11/23/21 16:45	11/24/21 16:15	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Client Sample ID: PH03

Lab Sample ID: 890-1612-2

Date Collected: 11/19/21 11:10

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 8

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	97		70 - 130	11/23/21 16:45	11/24/21 16:15	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			11/30/21 15:30	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			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/24/21 08:16	11/24/21 17:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/24/21 08:16	11/24/21 17:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/24/21 08:16	11/24/21 17:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130			11/24/21 08:16	11/24/21 17:51	1
o-Terphenyl	105		70 - 130			11/24/21 08:16	11/24/21 17:51	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	74.3		5.05	mg/Kg			12/03/21 04:28	1

Client Sample ID: PH04

Lab Sample ID: 890-1612-3

Date Collected: 11/19/21 12:08

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 8

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 16:36	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 16:36	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 16:36	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/23/21 16:45	11/24/21 16:36	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 16:36	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/23/21 16:45	11/24/21 16:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	11/23/21 16:45	11/24/21 16:36	1
1,4-Difluorobenzene (Surr)	79		70 - 130	11/23/21 16:45	11/24/21 16:36	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			11/30/21 15:30	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			12/01/21 20:09	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Client Sample ID: PH04

Lab Sample ID: 890-1612-3

Date Collected: 11/19/21 12:08

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 8

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		11/24/21 08:16	11/24/21 18:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/24/21 08:16	11/24/21 18:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/24/21 08:16	11/24/21 18:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	126		70 - 130			11/24/21 08:16	11/24/21 18:13	1
o-Terphenyl	127		70 - 130			11/24/21 08:16	11/24/21 18:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	85.5		5.05	mg/Kg			12/03/21 05:02	1

Client Sample ID: PH05

Lab Sample ID: 890-1612-4

Date Collected: 11/19/21 15:08

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 8

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/23/21 16:45	11/24/21 16:56	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/23/21 16:45	11/24/21 16:56	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/23/21 16:45	11/24/21 16:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/23/21 16:45	11/24/21 16:56	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/23/21 16:45	11/24/21 16:56	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/23/21 16:45	11/24/21 16:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130			11/23/21 16:45	11/24/21 16:56	1
1,4-Difluorobenzene (Surr)	106		70 - 130			11/23/21 16:45	11/24/21 16:56	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/30/21 15:30	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			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/24/21 08:16	11/24/21 18:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/24/21 08:16	11/24/21 18:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/24/21 08:16	11/24/21 18:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	123		70 - 130			11/24/21 08:16	11/24/21 18:35	1
o-Terphenyl	121		70 - 130			11/24/21 08:16	11/24/21 18:35	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Client Sample ID: PH05

Date Collected: 11/19/21 15:08

Date Received: 11/22/21 10:10

Sample Depth: 8

Lab Sample ID: 890-1612-4

Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	121		4.97	mg/Kg			12/03/21 05:14	1

Client Sample ID: PH06

Date Collected: 11/19/21 16:04

Date Received: 11/22/21 10:10

Sample Depth: 8

Lab Sample ID: 890-1612-5

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/23/21 16:45	11/24/21 17:17	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/23/21 16:45	11/24/21 17:17	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/23/21 16:45	11/24/21 17:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/23/21 16:45	11/24/21 17:17	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/23/21 16:45	11/24/21 17:17	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/23/21 16:45	11/24/21 17:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130			11/23/21 16:45	11/24/21 17:17	1
1,4-Difluorobenzene (Surr)	102		70 - 130			11/23/21 16:45	11/24/21 17:17	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/30/21 15:30	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			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/24/21 08:16	11/24/21 19:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/24/21 08:16	11/24/21 19:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/24/21 08:16	11/24/21 19:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130			11/24/21 08:16	11/24/21 19:22	1
o-Terphenyl	123		70 - 130			11/24/21 08:16	11/24/21 19:22	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.2		4.96	mg/Kg			12/03/21 05:25	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1612-1	PH02	108	110
890-1612-2	PH03	119	97
890-1612-3	PH04	115	79
890-1612-4	PH05	112	106
890-1612-5	PH06	118	102
890-1619-A-21-E MSD	Matrix Spike Duplicate	106	109
890-1619-A-21-I MS	Matrix Spike	107	106
LCS 880-13016/1-A	Lab Control Sample	106	105
LCSD 880-13016/2-A	Lab Control Sample Dup	107	104
MB 880-13016/5-A	Method Blank	113	102

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1609-A-1-K MS	Matrix Spike	127	117
890-1609-A-1-L MSD	Matrix Spike Duplicate	112	97
890-1612-1	PH02	111	111
890-1612-2	PH03	107	105
890-1612-3	PH04	126	127
890-1612-4	PH05	123	121
890-1612-5	PH06	118	123
LCS 880-13113/2-A	Lab Control Sample	299 S1+	284 S1+
LCSD 880-13113/3-A	Lab Control Sample Dup	297 S1+	286 S1+
MB 880-13113/1-A	Method Blank	141 S1+	142 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-13016/5-A

Matrix: Solid

Analysis Batch: 13108

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13016

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 10:46	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 10:46	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 10:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/23/21 16:45	11/24/21 10:46	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 16:45	11/24/21 10:46	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/23/21 16:45	11/24/21 10:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	11/23/21 16:45	11/24/21 10:46	1
1,4-Difluorobenzene (Surr)	102		70 - 130	11/23/21 16:45	11/24/21 10:46	1

Lab Sample ID: LCS 880-13016/1-A

Matrix: Solid

Analysis Batch: 13108

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 13016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09040		mg/Kg		90	70 - 130
Toluene	0.100	0.08336		mg/Kg		83	70 - 130
Ethylbenzene	0.100	0.08400		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	0.200	0.1755		mg/Kg		88	70 - 130
o-Xylene	0.100	0.08709		mg/Kg		87	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: LCSD 880-13016/2-A

Matrix: Solid

Analysis Batch: 13108

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 13016

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08879		mg/Kg		89	70 - 130	2	35
Toluene	0.100	0.08362		mg/Kg		84	70 - 130	0	35
Ethylbenzene	0.100	0.08377		mg/Kg		84	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.1743		mg/Kg		87	70 - 130	1	35
o-Xylene	0.100	0.08797		mg/Kg		88	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-1619-A-21-E MSD

Matrix: Solid

Analysis Batch: 13108

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 13016

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.08556		mg/Kg		86	70 - 130	9	35
Toluene	<0.00199	U	0.0996	0.07906		mg/Kg		79	70 - 130	9	35

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

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

Lab Sample ID: 890-1619-A-21-E MSD

Matrix: Solid

Analysis Batch: 13108

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 13016

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00199	U	0.0996	0.08020		mg/Kg		81	70 - 130	7	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1678		mg/Kg		84	70 - 130	8	35
o-Xylene	<0.00199	U	0.0996	0.08340		mg/Kg		83	70 - 130	8	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 890-1619-A-21-I MS

Matrix: Solid

Analysis Batch: 13108

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 13016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.0998	0.09349		mg/Kg		94	70 - 130
Toluene	<0.00199	U	0.0998	0.08636		mg/Kg		86	70 - 130
Ethylbenzene	<0.00199	U	0.0998	0.08643		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1818		mg/Kg		91	70 - 130
o-Xylene	<0.00199	U	0.0998	0.09019		mg/Kg		90	70 - 130

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

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

Lab Sample ID: MB 880-13113/1-A

Matrix: Solid

Analysis Batch: 13221

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13113

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		11/24/21 08:16	11/24/21 13:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/24/21 08:16	11/24/21 13:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/24/21 08:16	11/24/21 13:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	141	S1+	70 - 130	11/24/21 08:16	11/24/21 13:24	1
o-Terphenyl	142	S1+	70 - 130	11/24/21 08:16	11/24/21 13:24	1

Lab Sample ID: LCS 880-13113/2-A

Matrix: Solid

Analysis Batch: 13221

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 13113

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	976.6		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	1000	913.3		mg/Kg		91	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

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

Lab Sample ID: LCS 880-13113/2-A

Matrix: Solid

Analysis Batch: 13221

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 13113

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	299	S1+	70 - 130
o-Terphenyl	284	S1+	70 - 130

Lab Sample ID: LCSD 880-13113/3-A

Matrix: Solid

Analysis Batch: 13221

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 13113

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	963.4		mg/Kg		96	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	910.4		mg/Kg		91	70 - 130	0	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	297	S1+	70 - 130
o-Terphenyl	286	S1+	70 - 130

Lab Sample ID: 890-1609-A-1-K MS

Matrix: Solid

Analysis Batch: 13221

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 13113

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 F2	997	1262		mg/Kg		124	70 - 130
Diesel Range Organics (Over C10-C28)	187		997	1242		mg/Kg		106	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	127		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: 890-1609-A-1-L MSD

Matrix: Solid

Analysis Batch: 13221

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 13113

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 F2	999	1717	F1 F2	mg/Kg		170	70 - 130	31	20
Diesel Range Organics (Over C10-C28)	187		999	1101		mg/Kg		91	70 - 130	12	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	97		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-13079/1-A

Matrix: Solid

Analysis Batch: 13774

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			12/03/21 00:28	1

Lab Sample ID: LCS 880-13079/2-A

Matrix: Solid

Analysis Batch: 13774

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	245.7		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-13079/3-A

Matrix: Solid

Analysis Batch: 13774

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	240.5		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 890-1611-A-5-D MS

Matrix: Solid

Analysis Batch: 13774

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	<5.00	U	250	269.9		mg/Kg		107	90 - 110

Lab Sample ID: 890-1611-A-5-E MSD

Matrix: Solid

Analysis Batch: 13774

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	<5.00	U	250	271.7		mg/Kg		107	90 - 110	1	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

GC VOA

Prep Batch: 13016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1612-1	PH02	Total/NA	Solid	5035	
890-1612-2	PH03	Total/NA	Solid	5035	
890-1612-3	PH04	Total/NA	Solid	5035	
890-1612-4	PH05	Total/NA	Solid	5035	
890-1612-5	PH06	Total/NA	Solid	5035	
MB 880-13016/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-13016/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-13016/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1619-A-21-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
890-1619-A-21-I MS	Matrix Spike	Total/NA	Solid	5035	

Analysis Batch: 13108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1612-1	PH02	Total/NA	Solid	8021B	13016
890-1612-2	PH03	Total/NA	Solid	8021B	13016
890-1612-3	PH04	Total/NA	Solid	8021B	13016
890-1612-4	PH05	Total/NA	Solid	8021B	13016
890-1612-5	PH06	Total/NA	Solid	8021B	13016
MB 880-13016/5-A	Method Blank	Total/NA	Solid	8021B	13016
LCS 880-13016/1-A	Lab Control Sample	Total/NA	Solid	8021B	13016
LCSD 880-13016/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	13016
890-1619-A-21-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	13016
890-1619-A-21-I MS	Matrix Spike	Total/NA	Solid	8021B	13016

Analysis Batch: 13453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1612-1	PH02	Total/NA	Solid	Total BTEX	
890-1612-2	PH03	Total/NA	Solid	Total BTEX	
890-1612-3	PH04	Total/NA	Solid	Total BTEX	
890-1612-4	PH05	Total/NA	Solid	Total BTEX	
890-1612-5	PH06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 13113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1612-1	PH02	Total/NA	Solid	8015NM Prep	
890-1612-2	PH03	Total/NA	Solid	8015NM Prep	
890-1612-3	PH04	Total/NA	Solid	8015NM Prep	
890-1612-4	PH05	Total/NA	Solid	8015NM Prep	
890-1612-5	PH06	Total/NA	Solid	8015NM Prep	
MB 880-13113/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-13113/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-13113/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1609-A-1-K MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1609-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 13221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1612-1	PH02	Total/NA	Solid	8015B NM	13113
890-1612-2	PH03	Total/NA	Solid	8015B NM	13113

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

GC Semi VOA (Continued)

Analysis Batch: 13221 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1612-3	PH04	Total/NA	Solid	8015B NM	13113
890-1612-4	PH05	Total/NA	Solid	8015B NM	13113
890-1612-5	PH06	Total/NA	Solid	8015B NM	13113
MB 880-13113/1-A	Method Blank	Total/NA	Solid	8015B NM	13113
LCS 880-13113/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	13113
LCSD 880-13113/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	13113
890-1609-A-1-K MS	Matrix Spike	Total/NA	Solid	8015B NM	13113
890-1609-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	13113

Analysis Batch: 13711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1612-1	PH02	Total/NA	Solid	8015 NM	
890-1612-2	PH03	Total/NA	Solid	8015 NM	
890-1612-3	PH04	Total/NA	Solid	8015 NM	
890-1612-4	PH05	Total/NA	Solid	8015 NM	
890-1612-5	PH06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 13079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1612-1	PH02	Soluble	Solid	DI Leach	
890-1612-2	PH03	Soluble	Solid	DI Leach	
890-1612-3	PH04	Soluble	Solid	DI Leach	
890-1612-4	PH05	Soluble	Solid	DI Leach	
890-1612-5	PH06	Soluble	Solid	DI Leach	
MB 880-13079/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-13079/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-13079/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1611-A-5-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1611-A-5-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 13774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1612-1	PH02	Soluble	Solid	300.0	13079
890-1612-2	PH03	Soluble	Solid	300.0	13079
890-1612-3	PH04	Soluble	Solid	300.0	13079
890-1612-4	PH05	Soluble	Solid	300.0	13079
890-1612-5	PH06	Soluble	Solid	300.0	13079
MB 880-13079/1-A	Method Blank	Soluble	Solid	300.0	13079
LCS 880-13079/2-A	Lab Control Sample	Soluble	Solid	300.0	13079
LCSD 880-13079/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	13079
890-1611-A-5-D MS	Matrix Spike	Soluble	Solid	300.0	13079
890-1611-A-5-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	13079

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Client Sample ID: PH02

Lab Sample ID: 890-1612-1

Date Collected: 11/19/21 10:22

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	13016	11/23/21 16:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13108	11/24/21 15:55	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	13113	11/24/21 08:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13221	11/24/21 17:29	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		10			13774	12/03/21 04:17	CH	XEN MID

Client Sample ID: PH03

Lab Sample ID: 890-1612-2

Date Collected: 11/19/21 11:10

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	13016	11/23/21 16:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13108	11/24/21 16:15	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	13113	11/24/21 08:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13221	11/24/21 17:51	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 04:28	CH	XEN MID

Client Sample ID: PH04

Lab Sample ID: 890-1612-3

Date Collected: 11/19/21 12:08

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	13016	11/23/21 16:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13108	11/24/21 16:36	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	13113	11/24/21 08:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13221	11/24/21 18:13	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 05:02	CH	XEN MID

Client Sample ID: PH05

Lab Sample ID: 890-1612-4

Date Collected: 11/19/21 15:08

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	13016	11/23/21 16:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13108	11/24/21 16:56	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Client Sample ID: PH05

Lab Sample ID: 890-1612-4

Date Collected: 11/19/21 15:08

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	13113	11/24/21 08:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13221	11/24/21 18:35	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 05:14	CH	XEN MID

Client Sample ID: PH06

Lab Sample ID: 890-1612-5

Date Collected: 11/19/21 16:04

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	13016	11/23/21 16:45	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13108	11/24/21 17:17	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	13113	11/24/21 08:16	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13221	11/24/21 19:22	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 05:25	CH	XEN MID

Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

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.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

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

Eurofins Xenco, Carlsbad

Sample Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1612-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1612-1	PH02	Solid	11/19/21 10:22	11/22/21 10:10	8
890-1612-2	PH03	Solid	11/19/21 11:10	11/22/21 10:10	8
890-1612-3	PH04	Solid	11/19/21 12:08	11/22/21 10:10	8
890-1612-4	PH05	Solid	11/19/21 15:08	11/22/21 10:10	8
890-1612-5	PH06	Solid	11/19/21 16:04	11/22/21 10:10	8

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- 4
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- 7
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- 10
- 11
- 12
- 13
- 14

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
 Midland, TX (432) 704-5440, San Antonio, TX (210) 599-3334
 El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing

Xenco

Work Order No:

www.xenco.com

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Project Manager:	Joseph Hernandez	Bill to: (if different)	
Company Name:	WSP	Company Name:	
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(281) 782-2329	Email:	joe.hernandez@wsp.com

Project Name:	Black River 4H	Turn Around	
Project Number:	31403152.007	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project Location:	Eddy County	Due Date:	
Sampler's Name:	Anna Byers	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	CC: CL-21-002649	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code
PH02	S	11/19/21	1022	8'	Grab	1	TPH (EPA 815 mod)	
PH03			1100	8'		1	BTEX (EPA 821.6)	
PH04			1208	8'		1	Chloride (EPA 800.0)	
PH05			1508	8'		1		
PH06			1604	8'		1		

Total 200.7/6010	200.8/6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP/SPLP 6010 : 8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

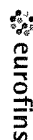
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Joe Hernandez	11/22/21 0950	Joe Hernandez	Joe Hernandez	11-22-21 1010

Revised Date 08/25/2020 Rev 2002

Eurofins Xenco, Carlsbad

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

Chain of Custody Record



Environment Testing America

Client Information (Sub Contract Lab)				Sampler	Lab PM	Carrier Tracking No(s)	COC No									
Client Contact				Phone:	Kramer Jessica		890-518.1									
Shipping/Receiving					E-Mail	State of Origin	Page:									
Company					Jessica.kramer@eurofins.com	New Mexico	Page 1 of 1									
Eurofins Xenco					Accreditations Required (See note)		Job #:									
Address				Due Date Requested	NE LAP - Louisiana NE LAP - Texas		890-1612-1									
City: 1211 W Florida Ave				11/30/2021	Analysis Requested											
Midland				TRAT Requested (day/s):												
State Zip: TX, 79701																
Phone: 432-704-5440(Tel)				PO #:												
Email:				WO #:												
Project Name: Black River 4h				Project #:												
Site:				SSOW#:												
Sample Identification - Client ID (Lab ID)				Sample Date	Sample Time	Sample Type (IC=comp, G=grab)	Matrix (W=water, S=solid, O=metal, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note
PH02 (890-1612-1)				11/19/21	10 22		Solid		X	X	X	X	X	X	1	
PH03 (890-1612-2)				11/19/21	11 10		Solid		X	X	X	X	X	X	1	
PH04 (890-1612-3)				11/19/21	12 08		Solid		X	X	X	X	X	X	1	
PH05 (890-1612-4)				11/19/21	15 08		Solid		X	X	X	X	X	X	1	
PH06 (890-1612-5)				11/19/21	16 04		Solid		X	X	X	X	X	X	1	
Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analysis & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin, listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.																
Possible Hazard Identification																
Unconfirmed																
Deliverable Requested I II III IV Other (specify)																
Primary Deliverable Rank 2																
Empty Kit Relinquished by																
Relinquished by																
Relinquished by																
Relinquished by																
Custody Seals Intact																
Custody Seal No																
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																
Return To Client																
Disposal By Lab																
Archive For																
Months																
Special Instructions/QC Requirements																
Method of Shipment:																
Received by																
Received by																
Received by																
Cooler Temperature(s) °C and Other Remarks																

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1612-1

SDG Number: Eddy County

Login Number: 1612**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: 890-1612-1

SDG Number: Eddy County

Login Number: 1612**List Number: 2****Creator: Kramer, Jessica****List Source: Eurofins Xenco, Midland****List Creation: 11/23/21 12:51 PM**

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1613-1

Laboratory Sample Delivery Group: Eddy County
Client Project/Site: Black River 4h

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
12/3/2021 3:33:36 PM

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

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results through

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www.eurofinsus.com/Env

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

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

Client: WSP USA Inc.
Project/Site: Black River 4h

Laboratory Job ID: 890-1613-1
SDG: Eddy County

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Job ID: 890-1613-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1613-1

Receipt

The samples were received on 11/22/2021 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA

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

GC Semi VOA

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 880-13731 and analytical batch 880-13732 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: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Client Sample ID: PH02

Lab Sample ID: 890-1613-1

Date Collected: 11/19/21 10:28

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 11

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		11/23/21 12:37	11/24/21 18:47	1
Toluene	<0.00202	U	0.00202	mg/Kg		11/23/21 12:37	11/24/21 18:47	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		11/23/21 12:37	11/24/21 18:47	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		11/23/21 12:37	11/24/21 18:47	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		11/23/21 12:37	11/24/21 18:47	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		11/23/21 12:37	11/24/21 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	11/23/21 12:37	11/24/21 18:47	1
1,4-Difluorobenzene (Surr)	97		70 - 130	11/23/21 12:37	11/24/21 18:47	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			11/30/21 15:30	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			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/24/21 12:36	11/25/21 00:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/24/21 12:36	11/25/21 00:33	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/24/21 12:36	11/25/21 00:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	11/24/21 12:36	11/25/21 00:33	1
o-Terphenyl	116		70 - 130	11/24/21 12:36	11/25/21 00:33	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	43.7		4.96	mg/Kg			12/03/21 05:37	1

Client Sample ID: PH03

Lab Sample ID: 890-1613-2

Date Collected: 11/19/21 11:22

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 11

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		11/23/21 12:37	11/24/21 19:14	1
Toluene	<0.00201	U	0.00201	mg/Kg		11/23/21 12:37	11/24/21 19:14	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		11/23/21 12:37	11/24/21 19:14	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		11/23/21 12:37	11/24/21 19:14	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		11/23/21 12:37	11/24/21 19:14	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		11/23/21 12:37	11/24/21 19:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	11/23/21 12:37	11/24/21 19:14	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Client Sample ID: PH03

Lab Sample ID: 890-1613-2

Date Collected: 11/19/21 11:22

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 11

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	92		70 - 130	11/23/21 12:37	11/24/21 19:14	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			11/30/21 15:30	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			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/24/21 12:36	11/25/21 01:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/24/21 12:36	11/25/21 01:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/24/21 12:36	11/25/21 01:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	117		70 - 130			11/24/21 12:36	11/25/21 01:39	1
o-Terphenyl	132	S1+	70 - 130			11/24/21 12:36	11/25/21 01:39	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	136		4.99	mg/Kg			12/03/21 05:48	1

Client Sample ID: PH04

Lab Sample ID: 890-1613-3

Date Collected: 11/19/21 12:18

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 11

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 19:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 19:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 19:40	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		11/23/21 12:37	11/24/21 19:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 19:40	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		11/23/21 12:37	11/24/21 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	144	S1+	70 - 130	11/23/21 12:37	11/24/21 19:40	1
1,4-Difluorobenzene (Surr)	110		70 - 130	11/23/21 12:37	11/24/21 19:40	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			11/30/21 15:30	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			12/01/21 20:09	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Client Sample ID: PH04

Lab Sample ID: 890-1613-3

Date Collected: 11/19/21 12:18

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 11

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		11/24/21 12:36	11/25/21 02:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/24/21 12:36	11/25/21 02:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/24/21 12:36	11/25/21 02:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130			11/24/21 12:36	11/25/21 02:01	1
o-Terphenyl	131	S1+	70 - 130			11/24/21 12:36	11/25/21 02:01	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	272		4.99	mg/Kg			12/03/21 05:59	1

Client Sample ID: PH05

Lab Sample ID: 890-1613-4

Date Collected: 11/19/21 15:18

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 11

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 20:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 20:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 20:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/23/21 12:37	11/24/21 20:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 20:07	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/23/21 12:37	11/24/21 20:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			11/23/21 12:37	11/24/21 20:07	1
1,4-Difluorobenzene (Surr)	98		70 - 130			11/23/21 12:37	11/24/21 20:07	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			11/30/21 15:30	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			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/24/21 12:36	11/25/21 02:23	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/24/21 12:36	11/25/21 02:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/24/21 12:36	11/25/21 02:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130			11/24/21 12:36	11/25/21 02:23	1
o-Terphenyl	139	S1+	70 - 130			11/24/21 12:36	11/25/21 02:23	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Client Sample ID: PH05

Lab Sample ID: 890-1613-4

Date Collected: 11/19/21 15:18

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 11

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	38.0		4.99	mg/Kg			12/03/21 06:11	1

Client Sample ID: PH06

Lab Sample ID: 890-1613-5

Date Collected: 11/19/21 16:14

Matrix: Solid

Date Received: 11/22/21 10:10

Sample Depth: 11

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 20:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 20:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 20:34	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/23/21 12:37	11/24/21 20:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 20:34	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/23/21 12:37	11/24/21 20:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130			11/23/21 12:37	11/24/21 20:34	1
1,4-Difluorobenzene (Surr)	104		70 - 130			11/23/21 12:37	11/24/21 20:34	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			11/30/21 15:30	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			12/01/21 20:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/24/21 12:36	11/25/21 02:45	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/24/21 12:36	11/25/21 02:45	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/24/21 12:36	11/25/21 02:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130			11/24/21 12:36	11/25/21 02:45	1
o-Terphenyl	131	S1+	70 - 130			11/24/21 12:36	11/25/21 02:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	337		24.9	mg/Kg			12/02/21 15:22	5

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1606-A-1-E MS	Matrix Spike	125	102
890-1606-A-1-F MSD	Matrix Spike Duplicate	119	95
890-1613-1	PH02	122	97
890-1613-2	PH03	115	92
890-1613-3	PH04	144 S1+	110
890-1613-4	PH05	105	98
890-1613-5	PH06	129	104
LCS 880-13076/1-A	Lab Control Sample	107	104
LCSD 880-13076/2-A	Lab Control Sample Dup	109	106
MB 880-13076/5-A	Method Blank	72	96
MB 880-13087/5-A	Method Blank	71	97
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1613-1	PH02	106	116
890-1613-1 MS	PH02	109	106
890-1613-1 MSD	PH02	110	105
890-1613-2	PH03	117	132 S1+
890-1613-3	PH04	115	131 S1+
890-1613-4	PH05	120	139 S1+
890-1613-5	PH06	116	131 S1+
LCS 880-13223/2-A	Lab Control Sample	117	128
LCSD 880-13223/3-A	Lab Control Sample Dup	110	122
MB 880-13223/1-A	Method Blank	151 S1+	169 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-13076/5-A

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13076

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 12:37	11/24/21 10:17	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/23/21 12:37	11/24/21 10:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130	11/23/21 12:37	11/24/21 10:17	1
1,4-Difluorobenzene (Surr)	96		70 - 130	11/23/21 12:37	11/24/21 10:17	1

Lab Sample ID: LCS 880-13076/1-A

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08609		mg/Kg		86	70 - 130
Toluene	0.100	0.08085		mg/Kg		81	70 - 130
Ethylbenzene	0.100	0.07935		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	0.200	0.1753		mg/Kg		88	70 - 130
o-Xylene	0.100	0.08509		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-13076/2-A

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08998		mg/Kg		90	70 - 130	4	35
Toluene	0.100	0.08514		mg/Kg		85	70 - 130	5	35
Ethylbenzene	0.100	0.08446		mg/Kg		84	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1876		mg/Kg		94	70 - 130	7	35
o-Xylene	0.100	0.09093		mg/Kg		91	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 890-1606-A-1-E MS

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00198	U F1	0.0996	0.05858	F1	mg/Kg		59	70 - 130
Toluene	<0.00198	U F1	0.0996	0.06553	F1	mg/Kg		66	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

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

Lab Sample ID: 890-1606-A-1-E MS

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00198	U F1	0.0996	0.06470	F1	mg/Kg		65	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.199	0.1440		mg/Kg		72	70 - 130
o-Xylene	<0.00198	U F1	0.0996	0.06394	F1	mg/Kg		64	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	125		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-1606-A-1-F MSD

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 13076

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U F1	0.100	0.05973	F1	mg/Kg		60	70 - 130	2	35
Toluene	<0.00198	U F1	0.100	0.06784	F1	mg/Kg		68	70 - 130	3	35
Ethylbenzene	<0.00198	U F1	0.100	0.06693	F1	mg/Kg		67	70 - 130	3	35
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1488		mg/Kg		74	70 - 130	3	35
o-Xylene	<0.00198	U F1	0.100	0.06867	F1	mg/Kg		69	70 - 130	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: MB 880-13087/5-A

Matrix: Solid

Analysis Batch: 13097

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13087

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/23/21 14:25	11/23/21 19:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/23/21 14:25	11/23/21 19:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	11/23/21 14:25	11/23/21 19:58	1
1,4-Difluorobenzene (Surr)	97		70 - 130	11/23/21 14:25	11/23/21 19:58	1

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

Lab Sample ID: MB 880-13223/1-A

Matrix: Solid

Analysis Batch: 13220

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13223

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		11/24/21 12:36	11/24/21 23:28	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

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

Lab Sample ID: MB 880-13223/1-A

Matrix: Solid

Analysis Batch: 13220

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 13223

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/24/21 12:36	11/24/21 23:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/24/21 12:36	11/24/21 23:28	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	151	S1+	70 - 130			11/24/21 12:36	11/24/21 23:28	1
o-Terphenyl	169	S1+	70 - 130			11/24/21 12:36	11/24/21 23:28	1

Lab Sample ID: LCS 880-13223/2-A

Matrix: Solid

Analysis Batch: 13220

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 13223

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	923.3		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1252		mg/Kg		125	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	117		70 - 130				
o-Terphenyl	128		70 - 130				

Lab Sample ID: LCSD 880-13223/3-A

Matrix: Solid

Analysis Batch: 13220

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 13223

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	870.1		mg/Kg		87	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	1000	1240		mg/Kg		124	70 - 130	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	110		70 - 130						
o-Terphenyl	122		70 - 130						

Lab Sample ID: 890-1613-1 MS

Matrix: Solid

Analysis Batch: 13220

Client Sample ID: PH02

Prep Type: Total/NA

Prep Batch: 13223

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1197		mg/Kg		120	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1168		mg/Kg		117	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	109		70 - 130						
o-Terphenyl	106		70 - 130						

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

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

Lab Sample ID: 890-1613-1 MSD

Matrix: Solid

Analysis Batch: 13220

Client Sample ID: PH02

Prep Type: Total/NA

Prep Batch: 13223

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	1217		mg/Kg		122	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1172		mg/Kg		117	70 - 130	0	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	110		70 - 130								
o-Terphenyl	105		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-13731/1-A

Matrix: Solid

Analysis Batch: 13732

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			12/02/21 12:55	1

Lab Sample ID: LCS 880-13731/2-A

Matrix: Solid

Analysis Batch: 13732

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	255.8		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-13731/3-A

Matrix: Solid

Analysis Batch: 13732

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	253.7		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 880-8881-A-1-B MS

Matrix: Solid

Analysis Batch: 13732

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	5.61	F1	253	293.2	F1	mg/Kg		114	90 - 110

Lab Sample ID: 880-8881-A-1-C MSD

Matrix: Solid

Analysis Batch: 13732

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	5.61	F1	253	283.1		mg/Kg		110	90 - 110	4	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-13079/1-A

Matrix: Solid

Analysis Batch: 13774

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			12/03/21 00:28	1

Lab Sample ID: LCS 880-13079/2-A

Matrix: Solid

Analysis Batch: 13774

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	245.7		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-13079/3-A

Matrix: Solid

Analysis Batch: 13774

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	240.5		mg/Kg		96	90 - 110	2	20

Lab Sample ID: 890-1611-A-5-D MS

Matrix: Solid

Analysis Batch: 13774

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	<5.00	U	250	269.9		mg/Kg		107	90 - 110

Lab Sample ID: 890-1611-A-5-E MSD

Matrix: Solid

Analysis Batch: 13774

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	<5.00	U	250	271.7		mg/Kg		107	90 - 110	1	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

GC VOA

Prep Batch: 13076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-1	PH02	Total/NA	Solid	5035	
890-1613-2	PH03	Total/NA	Solid	5035	
890-1613-3	PH04	Total/NA	Solid	5035	
890-1613-4	PH05	Total/NA	Solid	5035	
890-1613-5	PH06	Total/NA	Solid	5035	
MB 880-13076/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-13076/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-13076/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1606-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-1606-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 13087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-13087/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 13097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-1	PH02	Total/NA	Solid	8021B	13076
890-1613-2	PH03	Total/NA	Solid	8021B	13076
890-1613-3	PH04	Total/NA	Solid	8021B	13076
890-1613-4	PH05	Total/NA	Solid	8021B	13076
890-1613-5	PH06	Total/NA	Solid	8021B	13076
MB 880-13076/5-A	Method Blank	Total/NA	Solid	8021B	13076
MB 880-13087/5-A	Method Blank	Total/NA	Solid	8021B	13087
LCS 880-13076/1-A	Lab Control Sample	Total/NA	Solid	8021B	13076
LCSD 880-13076/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	13076
890-1606-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	13076
890-1606-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	13076

Analysis Batch: 13453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-1	PH02	Total/NA	Solid	Total BTEX	
890-1613-2	PH03	Total/NA	Solid	Total BTEX	
890-1613-3	PH04	Total/NA	Solid	Total BTEX	
890-1613-4	PH05	Total/NA	Solid	Total BTEX	
890-1613-5	PH06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 13220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-1	PH02	Total/NA	Solid	8015B NM	13223
890-1613-2	PH03	Total/NA	Solid	8015B NM	13223
890-1613-3	PH04	Total/NA	Solid	8015B NM	13223
890-1613-4	PH05	Total/NA	Solid	8015B NM	13223
890-1613-5	PH06	Total/NA	Solid	8015B NM	13223
MB 880-13223/1-A	Method Blank	Total/NA	Solid	8015B NM	13223
LCS 880-13223/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	13223
LCSD 880-13223/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	13223
890-1613-1 MS	PH02	Total/NA	Solid	8015B NM	13223
890-1613-1 MSD	PH02	Total/NA	Solid	8015B NM	13223

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

GC Semi VOA

Prep Batch: 13223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-1	PH02	Total/NA	Solid	8015NM Prep	
890-1613-2	PH03	Total/NA	Solid	8015NM Prep	
890-1613-3	PH04	Total/NA	Solid	8015NM Prep	
890-1613-4	PH05	Total/NA	Solid	8015NM Prep	
890-1613-5	PH06	Total/NA	Solid	8015NM Prep	
MB 880-13223/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-13223/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-13223/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1613-1 MS	PH02	Total/NA	Solid	8015NM Prep	
890-1613-1 MSD	PH02	Total/NA	Solid	8015NM Prep	

Analysis Batch: 13711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-1	PH02	Total/NA	Solid	8015 NM	
890-1613-2	PH03	Total/NA	Solid	8015 NM	
890-1613-3	PH04	Total/NA	Solid	8015 NM	
890-1613-4	PH05	Total/NA	Solid	8015 NM	
890-1613-5	PH06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 13079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-1	PH02	Soluble	Solid	DI Leach	
890-1613-2	PH03	Soluble	Solid	DI Leach	
890-1613-3	PH04	Soluble	Solid	DI Leach	
890-1613-4	PH05	Soluble	Solid	DI Leach	
MB 880-13079/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-13079/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-13079/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1611-A-5-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1611-A-5-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 13731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-5	PH06	Soluble	Solid	DI Leach	
MB 880-13731/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-13731/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-13731/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-8881-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-8881-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 13732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-5	PH06	Soluble	Solid	300.0	13731
MB 880-13731/1-A	Method Blank	Soluble	Solid	300.0	13731
LCS 880-13731/2-A	Lab Control Sample	Soluble	Solid	300.0	13731
LCSD 880-13731/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	13731
880-8881-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	13731
880-8881-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	13731

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

HPLC/IC

Analysis Batch: 13774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1613-1	PH02	Soluble	Solid	300.0	13079
890-1613-2	PH03	Soluble	Solid	300.0	13079
890-1613-3	PH04	Soluble	Solid	300.0	13079
890-1613-4	PH05	Soluble	Solid	300.0	13079
MB 880-13079/1-A	Method Blank	Soluble	Solid	300.0	13079
LCS 880-13079/2-A	Lab Control Sample	Soluble	Solid	300.0	13079
LCSD 880-13079/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	13079
890-1611-A-5-D MS	Matrix Spike	Soluble	Solid	300.0	13079
890-1611-A-5-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	13079

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Client Sample ID: PH02

Lab Sample ID: 890-1613-1

Date Collected: 11/19/21 10:28

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 18:47	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	13223	11/24/21 12:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13220	11/25/21 00:33	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 05:37	CH	XEN MID

Client Sample ID: PH03

Lab Sample ID: 890-1613-2

Date Collected: 11/19/21 11:22

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 19:14	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	13223	11/24/21 12:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13220	11/25/21 01:39	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 05:48	CH	XEN MID

Client Sample ID: PH04

Lab Sample ID: 890-1613-3

Date Collected: 11/19/21 12:18

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 19:40	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	13223	11/24/21 12:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13220	11/25/21 02:01	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 05:59	CH	XEN MID

Client Sample ID: PH05

Lab Sample ID: 890-1613-4

Date Collected: 11/19/21 15:18

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 20:07	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Client Sample ID: PH05

Lab Sample ID: 890-1613-4

Date Collected: 11/19/21 15:18

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	13223	11/24/21 12:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13220	11/25/21 02:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	13079	11/23/21 13:23	SC	XEN MID
Soluble	Analysis	300.0		1			13774	12/03/21 06:11	CH	XEN MID

Client Sample ID: PH06

Lab Sample ID: 890-1613-5

Date Collected: 11/19/21 16:14

Matrix: Solid

Date Received: 11/22/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	13076	11/23/21 12:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13097	11/24/21 20:34	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13453	11/30/21 15:30	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			13711	12/01/21 20:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	13223	11/24/21 12:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13220	11/25/21 02:45	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	13731	12/02/21 11:33	CH	XEN MID
Soluble	Analysis	300.0		5			13732	12/02/21 15:22	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

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: Black River 4h

Job ID: 890-1613-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1613-1	PH02	Solid	11/19/21 10:28	11/22/21 10:10	11
890-1613-2	PH03	Solid	11/19/21 11:22	11/22/21 10:10	11
890-1613-3	PH04	Solid	11/19/21 12:18	11/22/21 10:10	11
890-1613-4	PH05	Solid	11/19/21 15:18	11/22/21 10:10	11
890-1613-5	PH06	Solid	11/19/21 16:14	11/22/21 10:10	11



Chain of Custody

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

Environment Testing

Xenco

Work-Order-No:

www.xenco.com Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	
Company Name:	WSP	Company Name:	
Address:	3300 N A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(281) 702-2329	Email:	joe.hernandez@wsp.com

Project Name:	Black River 4H	Turn Around	Due Date:	11/11/21	Wet Ice:	Yes No	Thermometer ID:	1111-07
Project Number:	31403152-007	Due Date:	TAT starts the day received by the lab, if received by 4:30pm		Correction Factor:	0.2	Temperature Reading:	1.4
Project Location:	Eddy County	Temperature Reading:	Corrected Temperature:	1.2				
Sampler's Name:	Anna Byers							
P.O. #:	00:01.21.02649							

Sample Identification	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Prec. Code
PH02	11/19/21	10:28	11"	Grab	1	TRH (EPA 8215 mod)	
PH03	11/22	11:22	11"	↓	1	BTEX (EPA 8211 B)	
PH04	12/18	11:18	11"	↓	1	Chloride (EPA 8200)	
PH05	15/18	11:18	11"	↓	1		
PH06	16/14	11:14	11"	↓	1		

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Chi Coker	11/22/21 09:50	Chi Coker	Chi Coker	11-22-21 10:10

Revised Date: 08/25/2020 Rev. 2020.2

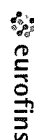
Eurofins Xenco, Carlsbad

1089 N Canal St.

Carlsbad NM 88220

Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record



Environment Testing America

Client Information (Sub Contract Lab)				Sampler	Lab PM:	Carrier Tracking No(s)	COC No:
Client Contact:				Phone	Kramer Jessica		890-518-1
Shipping/Receiving					E-Mail	State of Origin	Page
Company: Eurofins Xenco					Jessica.kramer@eurofinsnet.com	New Mexico	Page 1 of 1
Address				Due Date Requested	Accreditations Required (See note)		
1211 W. Florida Ave				11/30/2021	NELAP - Louisiana NELAP - Texas		
City				Analysis Requested			
Midland							
State Zip							
TX 79701							
Phone:							
432-704-5440(Tel)							
Email							
Project Name							
Black River 4h							
Site							
SSOW#							
Project #							
89000048							
Sample Identification - Client ID (Lab ID)							
Sample Date							
PH02 (890-1613-1)				10 28			
PH03 (890-1613-2)				11 22			
PH04 (890-1613-3)				12 18			
PH05 (890-1613-4)				15 18			
PH06 (890-1613-5)				16 14			
Sample Type							
(C=Comp, G=grab)							
Matrix							
(W=Water, S=solid, O=soil, BT=Tissue, AA=)							
Preservation Code							
Field Filtered Sample (Yes or No)							
Perform MS/MSD (Yes or No)							
8015MOD_NM/8015NM_S_Prep Full TPH							
300_ORGFM_28D/DI_LEACH Chloride							
8021B/5035FP_Calc BTEX							
Total_BTEX_GCV							
8015MOD_Calc							
Total Number of containers							
Special Instructions/Note:							
Preservation Codes							
A HCL				M Hexane			
B NaOH				N None			
C Zn Acetate				O AsNaO2			
D Nitric Acid				P Na2OAS			
E NaHSO4				Q Na2SO3			
F MeOH				R Na2S2O3			
G Amchlor				S H2SO4			
H Ascorbic Acid				T TSP Dodecylhydrate			
I Ice				U Acetone			
J DI Water				V MCAA			
K EDTA				W pH 4-5			
L EDTA				Z other (specify)			
Other:							

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1613-1

SDG Number: Eddy County

Login Number: 1613

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: 890-1613-1

SDG Number: Eddy County

Login Number: 1613

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

List Creation: 11/23/21 12:51 PM

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

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 68079

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 68079
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	Marathons' deferral requests to complete final remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first is approved. The deferred C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue.	2/16/2022