

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	nAPP2124531124
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: jim.ralej@dv.com	Incident # (assigned by OCD) nAPP2124531124
Contact mailing address: 5315 Buena Vista Dr., Carlsbad NM 88220	

Location of Release Source

Latitude 32.0196648 _____ Longitude 103.888366 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: RDX FEDERAL 28 #012	Site Type: Oil Production Facility
Date Release Discovered: Aug 30 th , 2021	API# (if applicable) 30-015-42110

Unit Letter	Section	Township	Range	County
C	28	26S	30E	Eddy

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

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 1	Volume Recovered (bbls) 0
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 60	Volume Recovered (bbls) 0
	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: Header on produced water gathering line failed. Allowing for release of fluids along gathering system ROW.


$$bbl\ estimate = \frac{saturated\ soil\ volume\ (ft^3)}{4.21(bbl\ equivalent)} * estimated\ soil\ porosity(\%) + recovered\ fluids\ (bbl)$$

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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 exceeded 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc) Notification made via email 8/31/2021 to Mike Bratcher and Emily Hernandez.	

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>James Raley</u>	Title: Environmental Specialist _____
Signature: 	Date: <u>09/02/2021</u>
email: <u>jim.raley@dvni.com</u>	Telephone: <u>575-689-7597</u>
<u>OCD Only</u>	
Received by: <u>Ramona Marcus</u>	Date: <u>9/7/2021</u>

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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?	>105 (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.

State of New Mexico
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: James Raley Title: Environmental Specialist
Signature:  Date: 11/24/2021
email: jim.raley@dm.com Telephone: 575-689-7597

OCD Only

Received by: _____ Date: _____

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Remediation Plan

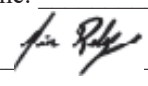
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ 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: Jim Raley Title: Environmental Specialist
Signature:  Date: 11/24/2021
email: jim.ralej@dmn.com Telephone: 575-689-7597

OCD Only

Received by: Chad Hensley Date: 12/21/2021

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

Signature:  Date: 12/21/2021



WSP USA

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

November 21, 2021

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

**Re: Remediation Work Plan
WPX Energy Permian, LLC.
RDX Federal 28 #012
Incident Number nAPP2124531124
Eddy County, New Mexico**

To Whom it May Concern:

WSP USA Inc. (WSP), on behalf of WPX Energy Permian, LLC. (WPX), presents the following Remediation Work Plan detailing site assessment, soil sampling activities, and preliminary remediation efforts completed to date and proposing additional remediation and soil sampling activities at the RDX Federal 28 #012 (Site) in Unit C, Section 28, Township 26 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the remediation and soil sampling activities completed to date was to address impacts to soil resulting from a release of crude oil and produced water at the Site. Based on field observations, field screening activities, and laboratory analytical results from soil sampling activities, WPX is submitting this Remediation Work Plan to describe soil sampling and initial response efforts that have occurred and propose additional remediation activities.

RELEASE BACKGROUND

On August 30, 2021, the header on the produced water gathering line failed and resulted in the release of approximately 60 barrels (bbls) of produced water and 1 bbl of crude oil onto the caliche well pad and adjacent pasture. No fluids were able to be recovered immediately. WPX reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on August 31, 2021 and with a subsequent Release Notification and Corrective Action Form C-141 (Form C-141) on September 2, 2021. The release was assigned Incident Number nAPP2124531124.



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 greater than 100 feet bgs based on soil boring MW-1, associated with Ross Draw Unit (RDU) Federal Com 21-43, that was drilled by Talon LPE on December 9, 2020. The soil boring is located approximately 0.28 miles east of the Site. Using a truck mounted drill rig equipped with hollow stem auger, the soil boring was advanced to a total depth of approximately 105 feet bgs. Groundwater was not observed within the soil boring after at least 72 hours. Following the observation period, the boring was plugged and abandoned. The boring log is included as Attachment 1.

Regionally, WPX installed six other borings in December 2020 ((RDX 16-25 (MW-1), RDX 17 #3 (MW-1), RDX Federal Com 17-44H (MW-1), RDU #38 (MW-1), RDU #55 (MW-1), and RDU #57 (MW-1)) within a 5-mile radius of the Site and depth to water results for all six indicated groundwater was not encountered within 105 feet of the ground surface. Two other water wells, United States Geological Survey (USGS) well number 320125103514701 and New Mexico Office of the State Engineer (OSE) well number C 02165, indicate depth to water was 117 feet bgs and 180 feet bgs, respectively. Regionally, depth to water appears to be greater than 100 feet bgs and therefore the depth to water estimate for RDX Federal Com 21-43 appears to be consistent with the regional data, thus a representative water well for estimating depth to water for the Site. Figure 1 depicts the nine water wells described above.

The closest continuously flowing or significant watercourse to the Site is an intermittent streambed located approximately 1,316 feet southeast 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 located in a medium-potential karst area. Potential receptors identified during Site Characterization are displayed in Figure 1.

CLOSURE CRITERIA

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg



- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

INITIAL SITE ASSESSMENT ACTIVITIES

On September 13, 2021, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP reviewed and verified the incident description (release source and release location) with visual soil impacts and confirmed that the release impacted the caliche well pad and pasture area north, east, and southeast to the well pad. The release extent was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2.

DELINEATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

Between September 27 and 29, 2021, WSP personnel were at the Site to conduct delineation activities. WSP utilized a heavy equipment and/or hand auger to advance fourteen delineation points (PH01 through PH05 and BH01 through BH09) within and around the release extent to define the horizontal and vertical extent of impacted soil. Delineation soil samples BH01 through BH09 were advanced in the pasture area; delineation soil samples PH01 through PH05 were advanced on the well pad. 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 delineation soil sample locations: the sample with the highest observed field screening concentrations (ranging from 0.5 foot to 3 feet bgs) and the greatest depth (ranging from 1 foot to 4 feet bgs).

The delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Field screening results and observations for each delineation soil samples were recorded on lithologic/soil sampling logs. Attachment 2 includes lithologic/soil sampling logs for soil samples BH01 (off pad). The lithology of the Site consists primary of fine grained sand



to fine grained sand and very poorly consolidated caliche in the top 4 feet of the subsurface. The delineation soil sample locations are presented on Figures 2.

Laboratory analytical results for on pad delineation soil samples collected outside the release extent (PH01 through PH05), indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and will be used to confirm lateral delineation to east and west of the release footprint on pad.

Laboratory analytical results for off pad delineation soil samples collected from delineation soil sample BH05, indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the reclamation requirement in the top 4 feet of the subsurface.

Laboratory analytical results for the delineation soil samples collected in BH02 indicated TPH-GRO/TPH-DRO and TPH exceeded the reclamation requirement in the top 4 feet of the subsurface. Laboratory analytical results for delineation soil samples BH01, BH03, BH04, and BH06 through BH09 indicated chloride exceeded the reclamation requirement in the top 4 feet of the subsurface. The laboratory analytical results are summarized on the attached Table 1. The complete laboratory analytical reports are included as Attachment 4.

INITIAL REMEDIATION EFFORTS

During delineation activities, WSP personnel were onsite to oversee initial excavation activities to remove the top 0.5 to 1-foot of impacted soil within the release extent on the well pad utilizing heavy equipment. Excavation activities were directed by field screening soil samples for volatile aromatic hydrocarbons using a calibrated PID and chloride using Hach® chloride QuanTab® test strips. The excavation area encompassed the well pad release area. WPX is reviewing encroachment guidelines for the associated release areas along a utility Right-of-Way (ROW) and will be coordinating with internal and third-party operator safety representatives to conduct oversight for remediation activities within or around their respective pipelines. A total of 356 cubic yards of impacted soil were removed during initial excavation activities. The impacted soil was transported and properly disposed of at a R360 Facility under WPX approved manifests. Photographic documentation from excavation activities is included in Attachment 3.

REMEDATION WORK PLAN

Based on laboratory analytical results for the delineation samples from delineation soil samples in the pasture (BH01, BH03, BH04 and BH06 through BH09), remediation is required in the pasture release area. The excavation(s) will extend until concentrations of chloride are compliant with the reclamation requirement, Closure Criteria or maximum allowable extent without compromising pipeline stability and the safety of personnel if for any reason, controls for soil engineering support became debilitated due to factors affecting shear strength potential of the sandy strata. Pipeline weight on limited soil intended to act as a support could result in



consequences affecting the safety of personnel or active operations. Based on the quantity and contents of active pipelines in the release area, WPX or third party operator may implement additional safety precautions above encroachment guidelines, including restrictions on hand shoveling and cribbing. These restrictions may be implemented as health and safety precautions at the judgment and responsibility of a WPX or third-party operator safety representative. Vertical delineation of hydrocarbons for soil sample BH02 will be achieved through confirmation soil sampling.

Excavation activities will be performed utilizing heavy equipment and hydrovac. Due to the size of the release footprint (approximately 89,754 square feet), WSP proposes collecting 5-point composite soil samples at a frequency of every 1,000 square feet from the sidewalls and floor of the excavation to confirm that impacted soil is removed to below the reclamation standard and/or Closure Criteria. WPX respectfully requests a variance regarding the frequency of confirmation sample collection from NMOCD for this Site. WPX believes collecting confirmation samples on a 1,000 square foot frequency will capture sufficient data confirming soil impacts have been adequately excavated. The pasture excavation will be backfilled with locally procured topsoil and recontoured to match pre-existing conditions. Remediation efforts around and within areas containing subsurface pipelines will follow WPX and/or third-party operator safety policies.

Based on laboratory analytical results for delineation samples from soil sample BH05, no additional remediation efforts are required in the pasture in the vicinity of soil sample BH05; however, surface scraping may be conducted to remove minor surficial staining.

Confirmation excavation soil sampling for the on pad excavation will be conducted during remediation activities to verify the removal of impacted soils exceeding the Closure Criteria.

WPX believes the scope of work described above will meet requirements set forth in NMAC 19.15.29.13 and be protective of human health, the environment, and groundwater. As such, WPX respectfully requests approval of this Remediation Work Plan from NMOCD.

PROPOSED SCHEDULE

WPX will begin the additional proposed remediation activities following approval of this work plan by NMOCD.

If you have any questions or comments, please do not hesitate to contact Mr. Dan Moir at (970) 385-1096.



District II
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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'.

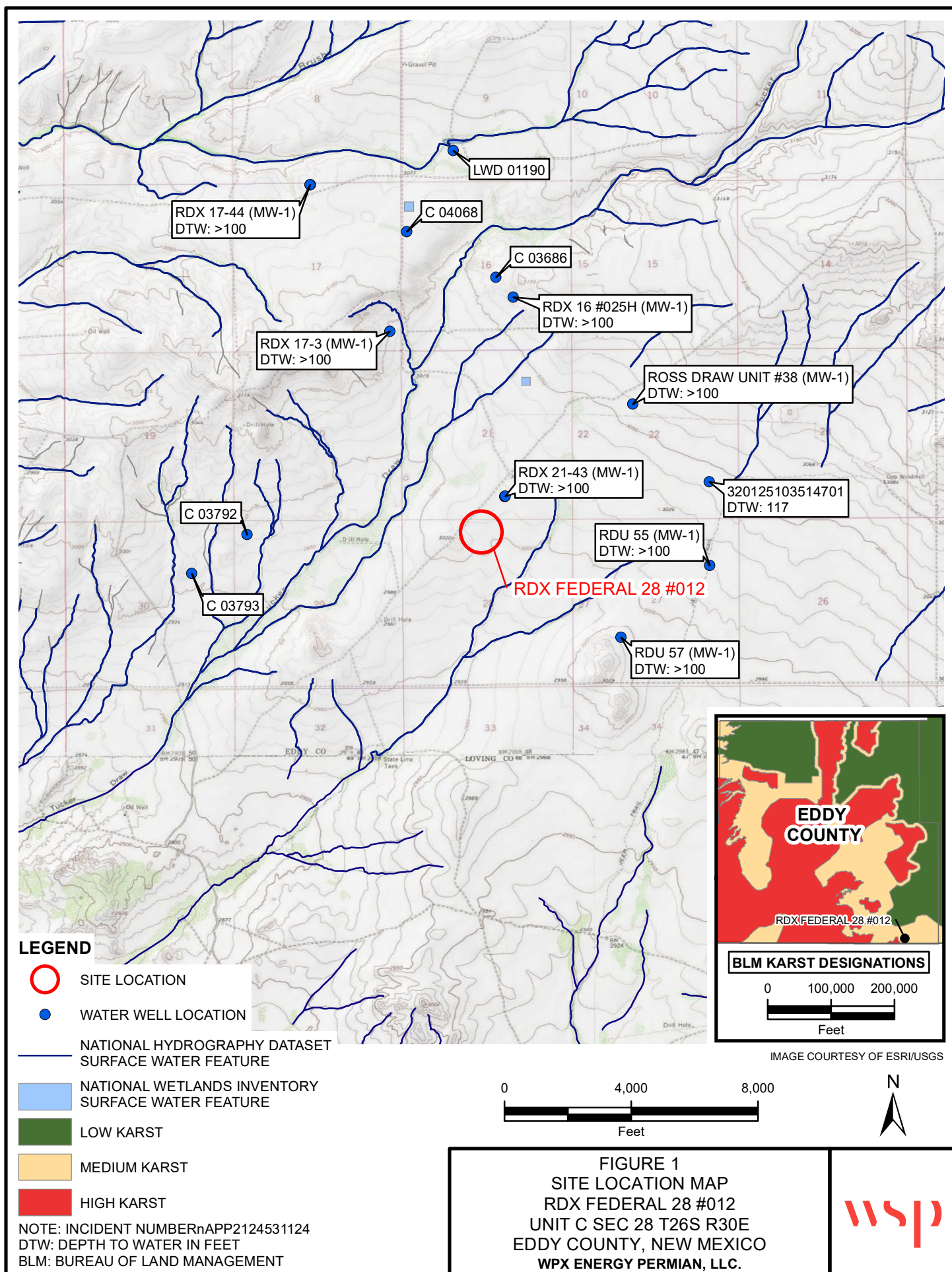
Daniel R. Moir, P.G.
Lead Consultant, Geologist

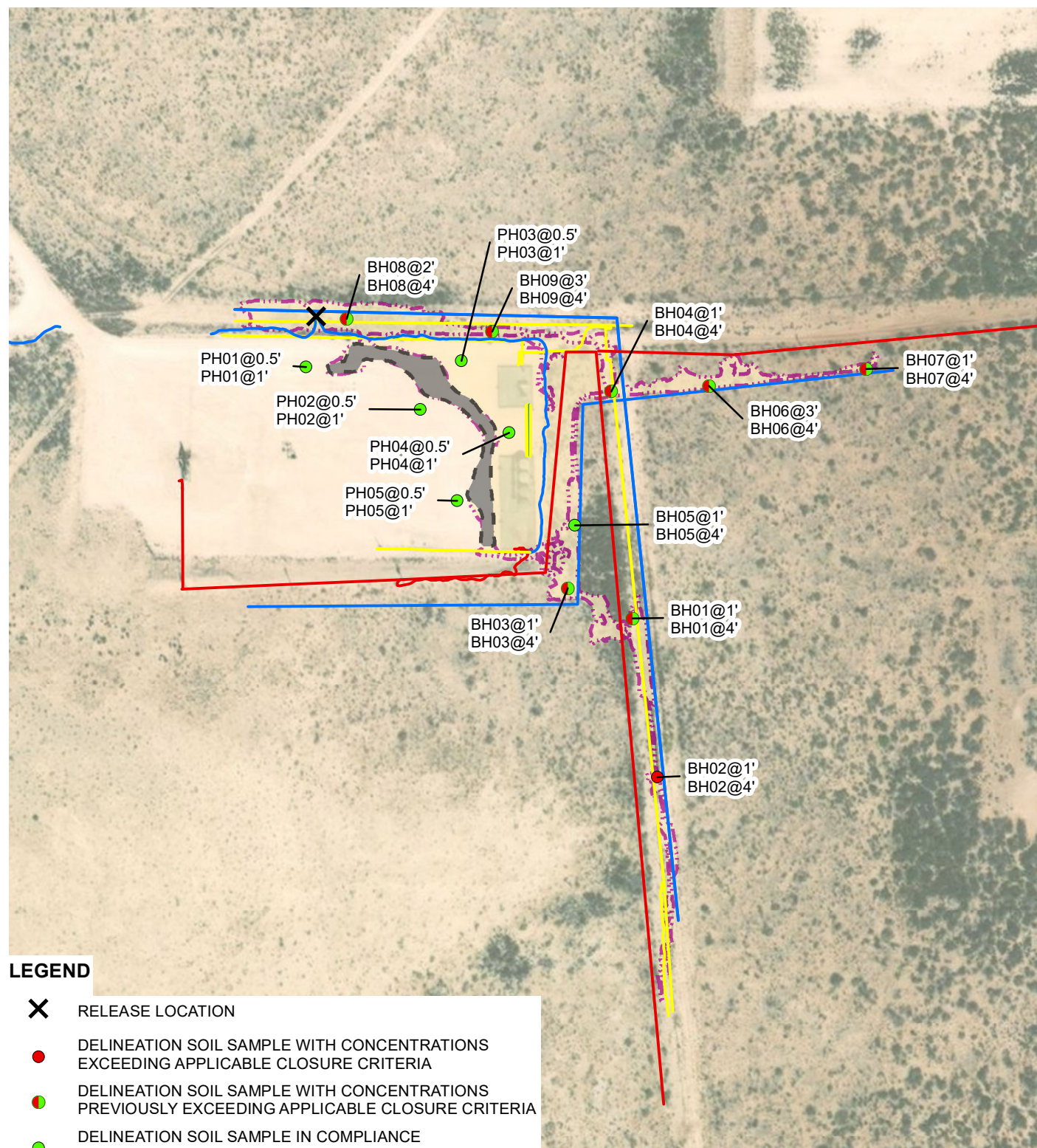
cc: Jim Raley, Devon
Bureau of Land Management

Attachments:

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

FIGURES



**LEGEND**

- X** RELEASE LOCATION
- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- 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

RELEASE EXTENT

EXCAVATION EXTENT

NOTE: INCIDENT NUMBER nAPP2124531124
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

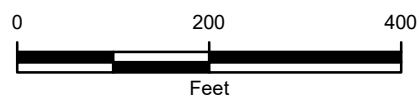


IMAGE COURTESY OF ESRI

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
RDX FEDERAL 28 #012
UNIT C SEC 28 T26S R30E
EDDY COUNTY, NEW MEXICO
WPX ENERGY PERMIAN, LLC



TABLES

Table 1

Soil Analytical Results
RDX Federal 28-12H
Incident Number nAPP2124531124
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Samples										
PH01	09/27/2021	0.5	<0.00198	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	31.7
PH01	09/27/2021	1	<0.00199	<0.00200	<49.8	<49.8	<49.8	<49.8	<50.0	22.7
PH02	09/27/2021	0.5	<0.00198	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	37.2
PH02	09/27/2021	1	<0.00198	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	33.2
PH03	09/27/2021	0.5	<0.00199	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	26.1
PH03	09/27/2021	1	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<50.0	46.8
PH04	09/27/2021	0.5	<0.00202	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	17.8
PH04	09/27/2021	1	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	12.3
PH05	09/27/2021	0.5	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	18.5
PH05	09/27/2021	1	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	21.7
BH01	09/27/2021	1	<0.00199	<0.00200	<49.8	<49.8	<49.8	<49.8	<50.0	2,210*
BH01	09/27/2021	4	<0.00199	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	106
BH02	09/27/2021	1	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<50.0	29.4
BH02	09/27/2021	4	<0.00199	<0.00200	14,400	<250	2,220	14,400	16,600	77.3*
BH03	09/28/2021	1	<0.00202	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	8,320*
BH03	09/28/2021	4	<0.00199	<0.00200	<49.8	<49.8	<49.8	<49.8	<50.0	116
BH04	09/28/2021	1	<0.00199	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	829*
BH04	09/28/2021	4	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<50.0	6,310
BH05	09/29/2021	1	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	244
BH05	09/29/2021	4	<0.00202	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	34.6

Table 1

Soil Analytical Results
RDX Federal 28-12H
Incident Number nAPP2124531124
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
BH06	09/29/2021	3	<0.00201	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	22,300*
BH06	09/29/2021	4	<0.00199	<0.00200	<49.8	<49.8	<49.8	<49.8	<50.0	1,000
BH07	09/29/2021	1	<0.00201	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	7,600*
BH07	09/29/2021	4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	170
BH08	09/29/2021	2	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<50.0	17,600*
BH08	09/29/2021	4	<0.00202	<0.00200	<49.8	<49.8	<49.8	<49.8	<50.0	4,510
BH09	09/29/2021	3	<0.00199	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	15,300*
BH09	09/29/2021	4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	14,000

Notes:

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code


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


NE - Not Established


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


Greyed data represents samples that were excavated


ATTACHMENT 1: REFERENCED WELL RECORD


 HRL COMPLIANCE SOLUTIONS							BORING LOG/MONITORING WELL COMPLETION DIAGRAM						
							Boring/Well Number: MW-1			Location: RDX 16-25			
							Date: 12/10/2020			Client: WPX Energy			
Drilling Method: Air Rotary			Sampling Method: None				Logged By: J. Linn, PG			Drilled By: Talon LPE			
Gravel Pack Type: 10/20 sand			Gravel Pack Depth Interval: 3 bags				Seal Type: None		Seal Depth Interval: None		Latitude: 32.0399004		
Casing Type: PVC		Diameter: 2-inch		Depth Interval: 0-105 feet bgs			Boring Total Depth (ft. BGS): 110			Longitude: -103.8833368			
Screen Type: PVC		Slot: 0.010-inch		Diameter: 2-inch		Depth Interval: 105-110 ft		Well Total Depth (ft. BGS): 110			Depth to Water (ft. BTOC): > 110		
DTW Date: 12/16/2020													
Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks			Well Completion	
0	NM	L	D	N	N	NM	SW	NS	Pale orange to pink tan well graded sand with silt				
5													
10													
15													
20													
25	NM	L	D	N	N	NM	SP	NS	Pale pinky orange poorly graded fine sand				
30													
35													
40	NM	L	D	N	N	NM	SW	NS	Orange to pale red well graded sand with gravel				
45													
50	NM	L	D	N	N	NM	SP	NS	Pale pinky orange poorly graded fine sand				
55													
60	NM	L	D	N	N	NM	SP	NS	Pale pinky orange poorly graded fine sand with minor medium and coarse sand - TD: 110' bgs				
65													
70													
75													
80													
85													
90													
95													
100													
105													
110													


 HRL COMPLIANCE SOLUTIONS							BORING LOG/MONITORING WELL COMPLETION DIAGRAM						
							Boring/Well Number: MW-1			Location: Ross Draw Unit #38			
							Date: 12/8/2020			Client: WPX Energy			
Drilling Method: Air Rotary			Sampling Method: None				Logged By: J. Linn, PG			Drilled By: Talon LPE			
Gravel Pack Type: 10/20 Sand			Gravel Pack Depth Interval: 3 Bags				Seal Type: None		Seal Depth Interval: None		Latitude: 32.030300		
Casing Type: PVC		Diameter: 2-inch		Depth Interval: 0-100 feet bgs			Boring Total Depth (ft. BGS): 105			Longitude: -103.871338			
Screen Type: PVC		Slot: 0.010-inch		Diameter: 2-inch		Depth Interval: 100-105 ft		Well Total Depth (ft. BGS): 105			Depth to Water (ft. BTOC): > 105		
DTW Date: 12/16/2020													
Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks			Well Completion	
0	NM	L	D	N	N	NM	SW	NS	Pale orange/pale pink to buff colored fine sand with minor medium and coarse sand				
5													
10													
15													
20	NM	L	D	N	N	NM	SP	NS	Pale orange/pale pink poorly graded fine sand				
25													
30													
35	NM	L	D	N	N	NM	SP	NS	Tan/pale brown/pale orange poorly graded fine sand				
40													
45													
50													
55													
60													
65	NM	L	D	N	N	NM	SP	NS	Brick red brown poorly graded fine sand				
70													
75													
80													
85													
90													
95	NM	L	D	N	N	NM	SP	NS	Tan/pale brown/pale orange poorly graded fine sand - TD 105' BGS				
100													

 HRL COMPLIANCE SOLUTIONS							BORING LOG/MONITORING WELL COMPLETION DIAGRAM						
Drilling Method: Air Rotary							Sampling Method: None			Boring/Well Number: MW-1		Location: RDX Federal Com 21-43	
Gravel Pack Type: 10/20 Sand							Gravel Pack Depth Interval: 3 Bags			Date: 12/9/2020		Client: WPX Energy	
Casing Type: PVC							Diameter: 2-inch			Depth Interval: 0-100 feet bgs		Logged By: J. Linn, P.G.	
Screen Type: PVC							Slot: 0.010-inch			Diameter: 2-inch		Depth Interval: 100 - 105 ft	
Seal Type: None							Seal Depth Interval: None			Boring Total Depth (ft. BGS): 110		Latitude: 32.022571	
Well Total Depth (ft. BGS): 105							Depth to Water (ft. BTOC): > 105			DTW Date: 12/16/2020		Longitude: -103.884371	
Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks		Well Completion		
0	NM	L	D	N	N	NM	SP	NS	Pale orange to tan poorly graded fine sand				
5													
10													
15													
20	NM	H	D	N	N	NM	CL	NS	Pale orange/tan/pale red clay, dry, with silt, fine sand, and minor caliche				
25													
30													
35													
40	NM	L	D	N	N	NM	SP	NS	Pale orange to pale red poorly graded fine sand				
45													
50													
55													
60	NM	L	D	N	N	NM	SP	NS	Golden yellow poorly graded fine sand with minor silt and clay				
65													
70													
75													
80	NM	L	D	N	N	NM	SP	NS	Pale orange to pale red poorly graded fine sand with minor silt/clay				
85													
90													
95													
100	NM	M	D	N	N	NM	SC	NS	Buff to orange color fine sand with medium sand and clay				
85													
90													
95													
95	NM	H	D	N	N	NM	CL	NS	Brown orange clay with silt and fine sand				
100													
105													
105													
100	NM	H	D	N	N	NM	SC	NS	Golden yellow and buff colored clay with fine sand - TD Boring: 110' BGS; Sand 110' - 105' BGS				
105													


 HRL COMPLIANCE SOLUTIONS							BORING LOG/MONITORING WELL COMPLETION DIAGRAM						
							Boring/Well Number:			Location:			
							MW-1			RDX 17 #3			
							Date:			Client:			
							12/8/2020			WPX Energy			
Drilling Method:			Sampling Method:				Logged By:			Drilled By:			
Air Rotary			None				J. Linn, PG			Talon LPE			
Gravel Pack Type:			Gravel Pack Depth Interval:				Seal Type:		Seal Depth Interval:		Latitude:		
10/20 Sand			3 Bags				None		None		32.036765		
Casing Type:		Diameter:		Depth Interval:			Boring Total Depth (ft. BGS):			Longitude:			
PVC		2-inch		0-102 feet bgs			107			-103.895993			
Screen Type:		Slot:		Diameter:		Depth Interval:		Well Total Depth (ft. BGS):			Depth to Water (ft. BTOC):		
PVC		0.010-inch		2-inch		102-107 ft		107			> 107		
DTW Date:		12/16/2020											
Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks			Well Completion	
0	NM	L	D	N	N	NM	SP	NS	Pale orange poorly graded fine sand				
5													
10													
15													
20													
25	NM	L	D	N	N	NM	SP	NS	Same as above with slight increase in coarse sand and gravel				
30													
35													
40													
45													
45	NM	L	D	N	N	NM	SP	NS	Pale orange poorly graded fine sand with very slight silt				
50													
55													
60													
65													
65	NM	M	SL M	N	N	NM	SM	NS	Pale red orange clayey silty fine sand with minor coarse sand and gravel				
70													
75													
80													
85													
90	NM	L	SL M	N	N	NM	SP	NS	Pale orange poorly sorted fine sand - TD 107' BGS				
95													
100													
105													
105													

 HRL COMPLIANCE SOLUTIONS							BORING LOG/MONITORING WELL COMPLETION DIAGRAM						
							Boring/Well Number: MW-1		Location: RDX Federal Com 17-44H				
							Date: 12/8/2020		Client: WPX Energy				
Drilling Method: Air Rotary			Sampling Method: None				Logged By: J. Linn, PG		Drilled By: Talon LPE				
Gravel Pack Type: 10/20 Sand			Gravel Pack Depth Interval: 3 Bags				Seal Type: None		Seal Depth Interval: None		Latitude: 32.049656		
Casing Type: PVC			Diameter: 2-inch		Depth Interval: 0-105 ft bgs		Boring Total Depth (ft. BGS): 110		Longitude: -103.904054				
Screen Type: PVC			Slot: 0.010-inch		Diameter: 2-inch		Depth Interval: 105 - 110 ft		Well Total Depth (ft. BGS): 110		Depth to Water (ft. BTOC): > 110		
DTW Date: 12/16/2020													
Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks			Well Completion	
0	NM	L	D	N	N	NM	CE	NS	Buff to pale pink colored caliche				
5													
10													
15													
20													
25													
30													
35													
40	NM	L	D	N	N	NM	SW	NS	Pinky orange well graded sand with minor silt				
45													
50													
55													
60	NM	L	D	N	N	NM	SP	NS	Pinky pale brown orange poorly graded fine sand with minor silt				
65													
70													
75													
80	NM	L	D	N	N	NM	SW-SM SW-SC	NS	Pinky brown orange well-graded sand with silt and clay				
85													
90													
95													
100	NM	L	D	N	N	NM	SP	NS	Pinky pale brown orange poorly graded fine sand with minor silt - TD: 110' bgs				
105													

 HRL COMPLIANCE SOLUTIONS							BORING LOG/MONITORING WELL COMPLETION DIAGRAM					
							Boring/Well Number: MW-1		Location: Ross Draw Unit #55			
							Date: 12/9/2020		Client: WPX Energy			
Drilling Method: Air Rotary		Sampling Method: None		Logged By: J. Linn, PG		Drilled By: Talon LPE						
Gravel Pack Type: 10/20 Sand		Gravel Pack Depth Interval: 3 Bags		Seal Type: None		Seal Depth Interval: None		Latitude: 32.016165				
Casing Type: PVC		Diameter: 2-inch		Depth Interval: 0-101'7"		Boring Total Depth (ft. BGS): 106'7"		Longitude: -103.86346				
Screen Type: PVC		Slot: 0.010-inch		Diameter: 2-inch		Depth Interval: 101'7" - 106'7"		Well Total Depth (ft. BGS): 106'7"		Depth to Water (ft. BTOC): >106' 7"	DTW Date: 12/16/2020	
Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion		
0	NM	L	D	N	N	NM	SP	NS	Pale pink to buff colored poorly graded sand with minor silt			
5												
10												
15												
20	NM	L	D	N	N	NM	SW	NS	Pale tan orange well graded fine sand with minor medium and coarse sand			
25												
30												
35	NM	L	D	N	N	NM	SP	NS	Pale orange brown poorly graded fine sand with minor gravel			
40												
45												
50												
55												
60												
65												
70												
75	NM	L	D	N	N	NM	SP	NS	Grey poorly graded fine sand with minor gravel			
80												
85												
90												
95	NM	L	D	N	N	NM	SP	NS	Darker grey poorly graded fine sand with minor silt and minor medium sand			
100												
106'7"	NM	M	D	N	N	NM	SC	NS	Dark grey fine sand with moderate silt and clay - TD 106'7"			

 HRL COMPLIANCE SOLUTIONS							BORING LOG/MONITORING WELL COMPLETION DIAGRAM						
							Boring/Well Number: MW-1			Location: Ross Draw Unit #57			
							Date: 12/9/2020			Client: WPX Energy			
Drilling Method: Air Rotary			Sampling Method: None				Logged By: J. Linn, PG			Drilled By: Talon LPE			
Gravel Pack Type: 10/20 Sand			Gravel Pack Depth Interval: 3 Bags				Seal Type: None		Seal Depth Interval: None		Latitude: 32.01032		
Casing Type: PVC		Diameter: 2-inch		Depth Interval: 0-105 feet bgs			Boring Total Depth (ft. BGS): 110			Longitude: -103.87246			
Screen Type: PVC		Slot: 0.010-inch		Diameter: 2-inch		Depth Interval: 105-110 ft		Well Total Depth (ft. BGS): 110			Depth to Water (ft. BTOC): > 110		
											DTW Date: 12/16/2020		
Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks			Well Completion	
0	NM	L/M	D	N	N	NM	SM	NS	Tan/pale orange/pale brown poorly graded fine sand				
5													
10													
15													
20													
25													
30													
35	NM	M	D	N	N	NM	SW	NS	Hard, dry pale pink orange well graded sand with gravel				
40													
45													
50	NM	M	D	N	N	NM	SM	NS	Pale orange red tan silty fine sand				
55													
60	NM	L	D	N	N	NM	SW	NS	Dark brown greyish well graded sand				
65													
70													
75													
80													
85	NM	L/M	D to SL M	N	N	NM	SW	NS	Grey well graded sand				
90													
95													
100													
105	NM	L/M	D	N	N	NM	SM	NS	Tan/pale orange/pale brown poorly graded fine sand - TD 110' bgs				

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		BH or PH Name: <u>BH01</u>		Date: <u>9-27-21</u>				
		Site Name: <u>RDX 28-12</u>						
		RP or Incident Number:						
		WSP Job Number: <u>31403360.007</u>						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening: <u>TPH 3 PED</u>		Logged By: <u>LW</u>				
				Method: <u>Hand Auger</u>				
				Hole Diameter: <u>3.5"</u>				
				Total Depth: <u>4'</u>				
Comments: <u>40% Correction factor applied to CI</u>								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	7.8 (18.174)	0.0	Y	BH01	1'	1	SP	SAND, fine grained poorly graded, dark brown, slight staining, slight crumb, moist
	6.2 (14.541)	0.0	N	BH02	2'	2	SP	SAA, no stain
	5.4 (12.078)	0.0	N	BH03	3'	3	SP	SAA, no stain
	2.0 (263.2)	0.0	N	BH04	4'	4	SPI CLAY	SAND, fine grained poorly graded, calcite, very poorly consolidated, white, no stain, faint crumb, moist
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		


ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG

WPX Energy Permian, LLC.	RDX Federal 28 #012H Eddy County, NM	NAPP2124531124
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Photo No.	Date	
1	September 29 2021	
South view of the excavation on pad.		 A photograph showing a wide, flat, sandy area with numerous tire tracks. In the background, there is a low concrete wall, some yellow equipment, and a utility pole under a blue sky with scattered white clouds.

Photo No.	Date	
2	September 29 2021	
Southeast view of the excavation on pad.		 A photograph showing a sandy area with tire tracks, similar to the first photo. On the left, a large green cylindrical tank is visible. In the background, there is a low concrete wall, yellow equipment, and utility poles under a blue sky with scattered white clouds.

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: 890-1328-1
Laboratory Sample Delivery Group: 31403360.007
Client Project/Site: RDX 28-12

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:
10/11/2021 12:55:21 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: RDX 28-12

Laboratory Job ID: 890-1328-1
SDG: 31403360.007

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

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, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

Job ID: 890-1328-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-1328-1****Receipt**

The samples were received on 9/29/2021 9:37 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 2.0°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-8535 and analytical batch 880-8743 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 matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-8535 and analytical batch 880-8743 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.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-8690 and analytical batch 880-8712 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.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-8690 and analytical batch 880-8712 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-1321-A-1-E MSD). Evidence of matrix interferences is not obvious.

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

Client Sample ID: BH02

Lab Sample ID: 890-1328-1

Date Collected: 09/27/21 13:59

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/30/21 10:00	10/02/21 07:08	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/30/21 10:00	10/02/21 07:08	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/30/21 10:00	10/02/21 07:08	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/30/21 10:00	10/02/21 07:08	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/30/21 10:00	10/02/21 07:08	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/30/21 10:00	10/02/21 07:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	09/30/21 10:00	10/02/21 07:08	1
1,4-Difluorobenzene (Surr)	99		70 - 130	09/30/21 10:00	10/02/21 07:08	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/06/21 15:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		09/30/21 15:11	10/02/21 18:41	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/30/21 15:11	10/02/21 18:41	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/30/21 15:11	10/02/21 18:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	09/30/21 15:11	10/02/21 18:41	1
o-Terphenyl	114		70 - 130	09/30/21 15:11	10/02/21 18:41	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29.4		4.95		mg/Kg			10/05/21 01:30	1

Client Sample ID: BH02B

Lab Sample ID: 890-1328-3

Date Collected: 09/27/21 14:08

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/01/21 16:11	10/03/21 15:42	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/01/21 16:11	10/03/21 15:42	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/01/21 16:11	10/03/21 15:42	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/01/21 16:11	10/03/21 15:42	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/01/21 16:11	10/03/21 15:42	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/01/21 16:11	10/03/21 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	10/01/21 16:11	10/03/21 15:42	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

Client Sample ID: BH02B

Lab Sample ID: 890-1328-3

Date Collected: 09/27/21 14:08

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	75		70 - 130	10/01/21 16:11	10/03/21 15:42	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/04/21 11:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	16600		50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<250	U	250		mg/Kg		09/30/21 15:11	10/02/21 19:02	5
Diesel Range Organics (Over C10-C28)	14400		250		mg/Kg		09/30/21 15:11	10/02/21 19:02	5
Oil Range Organics (Over C28-C36)	2220		250		mg/Kg		09/30/21 15:11	10/02/21 19:02	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130				09/30/21 15:11	10/02/21 19:02	5
o-Terphenyl	114		70 - 130				09/30/21 15:11	10/02/21 19:02	5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77.3		4.98		mg/Kg			10/05/21 01:37	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

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)
890-1316-A-1-D MS	Matrix Spike	96	101
890-1316-A-1-E MSD	Matrix Spike Duplicate	92	87
890-1321-A-1-D MS	Matrix Spike	123	83
890-1321-A-1-E MSD	Matrix Spike Duplicate	126	59 S1-
890-1328-1	BH02	94	99
890-1328-3	BH02B	109	75
LCS 880-8690/1-A	Lab Control Sample	124	80
LCSD 880-8690/2-A	Lab Control Sample Dup	125	80
MB 880-8658/5-A	Method Blank	121	76
MB 880-8690/5-A	Method Blank	116	72
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)
880-6676-A-1-C MS	Matrix Spike	97	93
880-6676-A-1-D MSD	Matrix Spike Duplicate	100	95
890-1328-1	BH02	103	114
890-1328-3	BH02B	99	114
LCS 880-8688/2-A	Lab Control Sample	112	115
LCSD 880-8688/3-A	Lab Control Sample Dup	109	112
MB 880-8688/1-A	Method Blank	111	129
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: 890-1316-A-1-D MS

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8535

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F2 F1	0.0994	0.02625	F1	mg/Kg		26	70 - 130
Toluene	<0.00200	U F1	0.0994	0.02950	F1	mg/Kg		30	70 - 130
Ethylbenzene	<0.00200	U F1	0.0994	0.03132	F1	mg/Kg		32	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.06727	F1	mg/Kg		34	70 - 130
o-Xylene	<0.00200	U F1	0.0994	0.03677	F1	mg/Kg		37	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-1316-A-1-E MSD

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8535

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U F2 F1	0.100	0.01679	F2 F1	mg/Kg		17	70 - 130	44	35
Toluene	<0.00200	U F1	0.100	0.02085	F1	mg/Kg		21	70 - 130	34	35
Ethylbenzene	<0.00200	U F1	0.100	0.02217	F1	mg/Kg		22	70 - 130	34	35
m-Xylene & p-Xylene	<0.00401	U F1	0.201	0.04842	F1	mg/Kg		24	70 - 130	33	35
o-Xylene	<0.00200	U F1	0.100	0.02596	F1	mg/Kg		26	70 - 130	34	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	87		70 - 130

Lab Sample ID: MB 880-8658/5-A

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8658

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/30/21 11:52	10/02/21 21:17	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/30/21 11:52	10/02/21 21:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/30/21 11:52	10/02/21 21:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/30/21 11:52	10/02/21 21:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/30/21 11:52	10/02/21 21:17	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/30/21 11:52	10/02/21 21:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	09/30/21 11:52	10/02/21 21:17	1
1,4-Difluorobenzene (Surr)	76		70 - 130	09/30/21 11:52	10/02/21 21:17	1

Lab Sample ID: MB 880-8690/5-A

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8690

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/01/21 16:11	10/03/21 08:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/01/21 16:11	10/03/21 08:08	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

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

Lab Sample ID: MB 880-8690/5-A

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8690

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/01/21 16:11	10/03/21 08:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/01/21 16:11	10/03/21 08:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/01/21 16:11	10/03/21 08:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/01/21 16:11	10/03/21 08:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	10/01/21 16:11	10/03/21 08:08	1
1,4-Difluorobenzene (Surr)	72		70 - 130	10/01/21 16:11	10/03/21 08:08	1

Lab Sample ID: LCS 880-8690/1-A

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08497		mg/Kg		85	70 - 130
Toluene	0.100	0.09105		mg/Kg		91	70 - 130
Ethylbenzene	0.100	0.1018		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	0.200	0.2148		mg/Kg		107	70 - 130
o-Xylene	0.100	0.1073		mg/Kg		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	124		70 - 130
1,4-Difluorobenzene (Surr)	80		70 - 130

Lab Sample ID: LCSD 880-8690/2-A

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8690

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09124		mg/Kg		91	70 - 130	7	35
Toluene	0.100	0.09679		mg/Kg		97	70 - 130	6	35
Ethylbenzene	0.100	0.1054		mg/Kg		105	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.2218		mg/Kg		111	70 - 130	3	35
o-Xylene	0.100	0.1116		mg/Kg		112	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	125		70 - 130
1,4-Difluorobenzene (Surr)	80		70 - 130

Lab Sample ID: 890-1321-A-1-D MS

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8690

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F2 F1	0.100	0.06310	F1	mg/Kg		63	70 - 130
Toluene	<0.00199	U F1	0.100	0.004470	F1	mg/Kg		4	70 - 130
Ethylbenzene	<0.00199	U F1	0.100	0.01385	F1	mg/Kg		14	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.03583	F1	mg/Kg		18	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

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

Lab Sample ID: 890-1321-A-1-D MS

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8690

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
o-Xylene	<0.00199	U F1	0.100	0.06813	F1	mg/Kg		68	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	123		70 - 130
1,4-Difluorobenzene (Surr)	83		70 - 130

Lab Sample ID: 890-1321-A-1-E MSD

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8690

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F2 F1	0.0992	0.03566	F2 F1	mg/Kg		36	70 - 130	56	35
Toluene	<0.00199	U F1	0.0992	0.003354	F1	mg/Kg		3	70 - 130	29	35
Ethylbenzene	<0.00199	U F1	0.0992	0.01088	F1	mg/Kg		11	70 - 130	24	35
m-Xylene & p-Xylene	<0.00398	U F1	0.198	0.02767	F1	mg/Kg		14	70 - 130	26	35
o-Xylene	<0.00199	U F1	0.0992	0.05152	F1	mg/Kg		52	70 - 130	28	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	126		70 - 130
1,4-Difluorobenzene (Surr)	59	S1-	70 - 130

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

Lab Sample ID: MB 880-8688/1-A

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8688

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 10:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 10:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 10:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	09/30/21 15:11	10/02/21 10:10	1
o-Terphenyl	129		70 - 130	09/30/21 15:11	10/02/21 10:10	1

Lab Sample ID: LCS 880-8688/2-A

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	898.6		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1135		mg/Kg		114	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

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

Lab Sample ID: LCS 880-8688/2-A

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8688

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	115		70 - 130

Lab Sample ID: LCSD 880-8688/3-A

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8688

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	912.9		mg/Kg		91	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	1108		mg/Kg		111	70 - 130	2	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	112		70 - 130

Lab Sample ID: 880-6676-A-1-C MS

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8688

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	<49.8	U	997	866.0		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)	218		997	926.5		mg/Kg		71	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: 880-6676-A-1-D MSD

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8688

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	<49.8	U	999	903.1		mg/Kg		90	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	218		999	966.2		mg/Kg		75	70 - 130	4	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	95		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-8728/1-A

Matrix: Solid

Analysis Batch: 8845

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/04/21 22:31	1

Lab Sample ID: LCS 880-8728/2-A

Matrix: Solid

Analysis Batch: 8845

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 880-8728/3-A

Matrix: Solid

Analysis Batch: 8845

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	262.0		mg/Kg		105	90 - 110	2	20

Lab Sample ID: 890-1324-A-6-D MS

Matrix: Solid

Analysis Batch: 8845

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	98.3		250	342.4		mg/Kg		98	90 - 110

Lab Sample ID: 890-1324-A-6-E MSD

Matrix: Solid

Analysis Batch: 8845

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	98.3		250	345.3		mg/Kg		99	90 - 110	1	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

GC VOA

Prep Batch: 8535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-1	BH02	Total/NA	Solid	5035	
890-1316-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-1316-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 8658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-8658/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 8690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-3	BH02B	Total/NA	Solid	5035	
MB 880-8690/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-8690/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8690/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1321-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-1321-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 8712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-3	BH02B	Total/NA	Solid	8021B	8690
MB 880-8658/5-A	Method Blank	Total/NA	Solid	8021B	8658
MB 880-8690/5-A	Method Blank	Total/NA	Solid	8021B	8690
LCS 880-8690/1-A	Lab Control Sample	Total/NA	Solid	8021B	8690
LCSD 880-8690/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	8690
890-1321-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	8690
890-1321-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	8690

Analysis Batch: 8717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-3	BH02B	Total/NA	Solid	Total BTEX	

Analysis Batch: 8743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-1	BH02	Total/NA	Solid	8021B	8535
890-1316-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	8535
890-1316-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	8535

Analysis Batch: 9000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-1	BH02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 8688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-1	BH02	Total/NA	Solid	8015NM Prep	
890-1328-3	BH02B	Total/NA	Solid	8015NM Prep	
MB 880-8688/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8688/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8688/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-6676-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

GC Semi VOA (Continued)

Prep Batch: 8688 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-6676-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 8766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-1	BH02	Total/NA	Solid	8015B NM	8688
890-1328-3	BH02B	Total/NA	Solid	8015B NM	8688
MB 880-8688/1-A	Method Blank	Total/NA	Solid	8015B NM	8688
LCS 880-8688/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8688
LCSD 880-8688/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8688
880-6676-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	8688
880-6676-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	8688

Analysis Batch: 8793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-1	BH02	Total/NA	Solid	8015 NM	
890-1328-3	BH02B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 8728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-1	BH02	Soluble	Solid	DI Leach	
890-1328-3	BH02B	Soluble	Solid	DI Leach	
MB 880-8728/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8728/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8728/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1324-A-6-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1324-A-6-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 8845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1328-1	BH02	Soluble	Solid	300.0	8728
890-1328-3	BH02B	Soluble	Solid	300.0	8728
MB 880-8728/1-A	Method Blank	Soluble	Solid	300.0	8728
LCS 880-8728/2-A	Lab Control Sample	Soluble	Solid	300.0	8728
LCSD 880-8728/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8728
890-1324-A-6-D MS	Matrix Spike	Soluble	Solid	300.0	8728
890-1324-A-6-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	8728

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

Client Sample ID: BH02

Lab Sample ID: 890-1328-1

Date Collected: 09/27/21 13:59

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	8535	09/30/21 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/02/21 07:08	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			9000	10/06/21 15:40	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 18:41	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8728	10/01/21 11:56	CA	XEN MID
Soluble	Analysis	300.0		1			8845	10/05/21 01:30	CH	XEN MID

Client Sample ID: BH02B

Lab Sample ID: 890-1328-3

Date Collected: 09/27/21 14:08

Matrix: Solid

Date Received: 09/29/21 09:37

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	8690	10/01/21 16:11	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8712	10/03/21 15:42	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8717	10/04/21 11:24	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		5			8766	10/02/21 19:02	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8728	10/01/21 11:56	CA	XEN MID
Soluble	Analysis	300.0		1			8845	10/05/21 01:37	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: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

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: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

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: RDX 28-12

Job ID: 890-1328-1
SDG: 31403360.007

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1328-1	BH02	Solid	09/27/21 13:59	09/29/21 09:37	1
890-1328-3	BH02B	Solid	09/27/21 14:08	09/29/21 09:37	4

- 1
- 2
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- 7
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- 9
- 10
- 11
- 12
- 13
- 14



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0330 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 291-1111
Hobbs, NM (575-392-7550)

Chain of Custody

Work Order No.:

www.xenco.com

Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	WSP USA Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	julis.delval@wsp.com, joe.hernandez@wsp.com

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

Project Name:	RDX 28-12	Turn Around	ANALYSIS REQUEST						Work Order Notes
Project Number:	31403360.01	Routine <input checked="" type="checkbox"/>							
P.O. Number:		Rush:							
Sampler's Name:	Luis Del Val	Due Date:							


SAMPLE RECEIPT		Temp Blank:	Wet Ice:	
		(Yes) No	(Yes) No	
Temperature (°C):	2.2 / 2.0			Thermometer ID
Received In tact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)			Correction Factor:
Sample Custody Seals:	Yes No (N/A)			Total Containers:

Number of Containers

PA 8015)

EPA 0=8021)

le (EPA 300.0)



890-1328 Chain of Custody

TAT starts the day received by the lab. If received by 4:30pm

[illegible]

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr I1 Sn U V Zn

TCLP / SPLP 6010: 8HCRA 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 the signatory is the prerequisite for the assignment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	9-29-21 0932			
3		4			
5		6			

Revised Date 05/18 Nov 2016

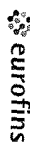
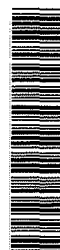
Eurofins Xenco, Carlsbad

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: 890-1328-1

SDG Number: 31403360.007

Login Number: 1328

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: 890-1328-1

SDG Number: 31403360.007

Login Number: 1328

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland

List Creation: 09/30/21 11:07 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	2.2 / 2.7
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").	True	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1329-1

Laboratory Sample Delivery Group: 31403360.007

Client Project/Site: RDX 28-12

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:
10/7/2021 9:57:10 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: RDX 28-12

Laboratory Job ID: 890-1329-1
SDG: 31403360.007

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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
*1	LCS/LCSD 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
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: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Job ID: 890-1329-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-1329-1****Receipt**

The samples were received on 9/29/2021 9:37 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 2.0°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-8724 and analytical batch 880-8743 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 matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-8724 and analytical batch 880-8743 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.

GC Semi VOA

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-8707 and analytical batch 880-8697 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH01A (890-1329-2). Evidence of matrix interferences is not obvious.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-8734 and analytical batch 880-8968 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: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Client Sample ID: BH01

Lab Sample ID: 890-1329-1

Date Collected: 09/27/21 13:39

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 19:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 19:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 19:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 19:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 19:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 19:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	10/01/21 09:00	10/01/21 19:29	1
1,4-Difluorobenzene (Surr)	74		70 - 130	10/01/21 09:00	10/01/21 19:29	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		09/30/21 15:58	10/02/21 02:47	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/30/21 15:58	10/02/21 02:47	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/30/21 15:58	10/02/21 02:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	09/30/21 15:58	10/02/21 02:47	1
o-Terphenyl	117		70 - 130	09/30/21 15:58	10/02/21 02:47	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2210		25.0		mg/Kg			10/04/21 21:29	5

Client Sample ID: BH01A

Lab Sample ID: 890-1329-2

Date Collected: 09/27/21 13:53

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 19:49	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 19:49	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 19:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 19:49	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 19:49	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	10/01/21 09:00	10/01/21 19:49	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Client Sample ID: BH01A

Lab Sample ID: 890-1329-2

Date Collected: 09/27/21 13:53

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	82		70 - 130	10/01/21 09:00	10/01/21 19:49	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/04/21 11:22	10/05/21 06:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/04/21 11:22	10/05/21 06:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/04/21 11:22	10/05/21 06:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130				10/04/21 11:22	10/05/21 06:24	1
o-Terphenyl	132	S1+	70 - 130				10/04/21 11:22	10/05/21 06:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	106		5.00		mg/Kg			10/06/21 11:04	1

Client Sample ID: BH03

Lab Sample ID: 890-1329-3

Date Collected: 09/28/21 09:26

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/01/21 09:00	10/01/21 20:10	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/01/21 09:00	10/01/21 20:10	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/01/21 09:00	10/01/21 20:10	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		10/01/21 09:00	10/01/21 20:10	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/01/21 09:00	10/01/21 20:10	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		10/01/21 09:00	10/01/21 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	10/01/21 09:00	10/01/21 20:10	1
1,4-Difluorobenzene (Surr)	76		70 - 130	10/01/21 09:00	10/01/21 20:10	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Client Sample ID: BH03

Lab Sample ID: 890-1329-3

Date Collected: 09/28/21 09:26

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/30/21 15:58	10/02/21 03:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/30/21 15:58	10/02/21 03:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/30/21 15:58	10/02/21 03:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130				09/30/21 15:58	10/02/21 03:08	1
o-Terphenyl	109		70 - 130				09/30/21 15:58	10/02/21 03:08	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8320		50.0		mg/Kg			10/04/21 21:35	10

Client Sample ID: BH03A

Lab Sample ID: 890-1329-4

Date Collected: 09/28/21 09:35

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 20:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 20:30	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 20:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 20:30	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 20:30	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 20:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130				10/01/21 09:00	10/01/21 20:30	1
1,4-Difluorobenzene (Surr)	72		70 - 130				10/01/21 09:00	10/01/21 20:30	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		10/01/21 08:12	10/01/21 11:20	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/01/21 08:12	10/01/21 11:20	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/01/21 08:12	10/01/21 11:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130				10/01/21 08:12	10/01/21 11:20	1
o-Terphenyl	111		70 - 130				10/01/21 08:12	10/01/21 11:20	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Client Sample ID: BH03A

Lab Sample ID: 890-1329-4

Date Collected: 09/28/21 09:35

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	116		5.00		mg/Kg			10/06/21 06:05	1

Client Sample ID: BH04

Lab Sample ID: 890-1329-5

Date Collected: 09/28/21 10:10

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F1 F2	0.00199		mg/Kg		10/01/21 10:40	10/03/21 14:37	1
Toluene	<0.00199	U F1 F2	0.00199		mg/Kg		10/01/21 10:40	10/03/21 14:37	1
Ethylbenzene	<0.00199	U F1 F2	0.00199		mg/Kg		10/01/21 10:40	10/03/21 14:37	1
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.00398		mg/Kg		10/01/21 10:40	10/03/21 14:37	1
o-Xylene	<0.00199	U F1 F2	0.00199		mg/Kg		10/01/21 10:40	10/03/21 14:37	1
Xylenes, Total	<0.00398	U F1 F2	0.00398		mg/Kg		10/01/21 10:40	10/03/21 14:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130				10/01/21 10:40	10/03/21 14:37	1
1,4-Difluorobenzene (Surr)	94		70 - 130				10/01/21 10:40	10/03/21 14:37	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/04/21 10:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		10/01/21 08:12	10/01/21 12:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/01/21 08:12	10/01/21 12:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/01/21 08:12	10/01/21 12:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130				10/01/21 08:12	10/01/21 12:25	1
o-Terphenyl	114		70 - 130				10/01/21 08:12	10/01/21 12:25	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	829		5.00		mg/Kg			10/06/21 06:12	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Client Sample ID: BH04A

Lab Sample ID: 890-1329-6

Date Collected: 09/28/21 10:49

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/01/21 10:40	10/03/21 15:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/01/21 10:40	10/03/21 15:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/01/21 10:40	10/03/21 15:04	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/01/21 10:40	10/03/21 15:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/01/21 10:40	10/03/21 15:04	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/01/21 10:40	10/03/21 15:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	10/01/21 10:40	10/03/21 15:04	1
1,4-Difluorobenzene (Surr)	102		70 - 130	10/01/21 10:40	10/03/21 15:04	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/04/21 10:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/01/21 08:14	10/01/21 11:20	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/01/21 08:14	10/01/21 11:20	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/01/21 08:14	10/01/21 11:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	10/01/21 08:14	10/01/21 11:20	1
o-Terphenyl	109		70 - 130	10/01/21 08:14	10/01/21 11:20	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6310		49.8		mg/Kg			10/06/21 06:20	10

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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)
890-1329-1	BH01	128	74
890-1329-2	BH01A	118	82
890-1329-3	BH03	93	76
890-1329-4	BH03A	125	72
890-1329-5	BH04	106	94
890-1329-5 MS	BH04	279 S1+	286 S1+
890-1329-5 MSD	BH04	101	103
890-1329-6	BH04A	127	102
890-1334-A-1-B MS	Matrix Spike	114	82
890-1334-A-1-C MSD	Matrix Spike Duplicate	111	83
LCS 880-8648/1-A	Lab Control Sample	109	83
LCS 880-8724/1-A	Lab Control Sample	102	103
LCSD 880-8648/2-A	Lab Control Sample Dup	108	86
LCSD 880-8724/2-A	Lab Control Sample Dup	99	104
MB 880-8648/5-A	Method Blank	119	80
MB 880-8654/5-A	Method Blank	70	94
MB 880-8724/5-A	Method Blank	70	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)
880-6748-A-1-B MS	Matrix Spike	100	104
880-6748-A-1-C MSD	Matrix Spike Duplicate	97	100
890-1329-1	BH01	103	117
890-1329-2	BH01A	108	132 S1+
890-1329-3	BH03	101	109
890-1329-4	BH03A	102	111
890-1329-4 MS	BH03A	100	99
890-1329-4 MSD	BH03A	98	98
890-1329-5	BH04	104	114
890-1329-6	BH04A	105	109
890-1329-6 MS	BH04A	97	93
890-1329-6 MSD	BH04A	91	84
890-1333-A-41-E MS	Matrix Spike	95	95
890-1333-A-41-F MSD	Matrix Spike Duplicate	97	94
LCS 880-8689/2-A	Lab Control Sample	109	108
LCS 880-8707/2-A	Lab Control Sample	111	107
LCS 880-8709/2-A	Lab Control Sample	98	91
LCS 880-8798/2-A	Lab Control Sample	116	127
LCSD 880-8689/3-A	Lab Control Sample Dup	101	103
LCSD 880-8707/3-A	Lab Control Sample Dup	99	96
LCSD 880-8709/3-A	Lab Control Sample Dup	97	90
LCSD 880-8798/3-A	Lab Control Sample Dup	109	124

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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 880-8689/1-A	Method Blank	95	108
MB 880-8707/1-A	Method Blank	93	100
MB 880-8709/1-A	Method Blank	97	105
MB 880-8798/1-A	Method Blank	99	121
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-8648/5-A

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8648

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 12:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 12:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 12:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/01/21 09:00	10/01/21 12:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 12:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/01/21 09:00	10/01/21 12:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	10/01/21 09:00	10/01/21 12:38	1
1,4-Difluorobenzene (Surr)	80		70 - 130	10/01/21 09:00	10/01/21 12:38	1

Lab Sample ID: LCS 880-8648/1-A

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8648

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09315		mg/Kg		93	70 - 130
Toluene	0.100	0.09599		mg/Kg		96	70 - 130
Ethylbenzene	0.100	0.09562		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	0.200	0.1978		mg/Kg		99	70 - 130
o-Xylene	0.100	0.09818		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	83		70 - 130

Lab Sample ID: LCSD 880-8648/2-A

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8648

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09636		mg/Kg		96	70 - 130	3	35
Toluene	0.100	0.09539		mg/Kg		95	70 - 130	1	35
Ethylbenzene	0.100	0.09705		mg/Kg		97	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1977		mg/Kg		99	70 - 130	0	35
o-Xylene	0.100	0.09881		mg/Kg		99	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: 890-1334-A-1-B MS

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8648

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.101	0.09608		mg/Kg		95	70 - 130
Toluene	<0.00200	U	0.101	0.09662		mg/Kg		96	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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

Lab Sample ID: 890-1334-A-1-B MS

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8648

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U	0.101	0.09805		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.202	0.2047		mg/Kg		101	70 - 130
o-Xylene	<0.00200	U	0.101	0.1022		mg/Kg		101	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	82		70 - 130

Lab Sample ID: 890-1334-A-1-C MSD

Matrix: Solid

Analysis Batch: 8712

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8648

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	0.09594		mg/Kg		96	70 - 130	0	35
Toluene	<0.00200	U	0.100	0.09955		mg/Kg		99	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.100	0.09976		mg/Kg		99	70 - 130	2	35
m-Xylene & p-Xylene	<0.00401	U	0.201	0.2085		mg/Kg		104	70 - 130	2	35
o-Xylene	<0.00200	U	0.100	0.1038		mg/Kg		103	70 - 130	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	83		70 - 130

Lab Sample ID: MB 880-8654/5-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8654

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/30/21 11:45	10/03/21 00:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/30/21 11:45	10/03/21 00:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/30/21 11:45	10/03/21 00:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/30/21 11:45	10/03/21 00:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/30/21 11:45	10/03/21 00:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/30/21 11:45	10/03/21 00:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		70 - 130	09/30/21 11:45	10/03/21 00:12	1
1,4-Difluorobenzene (Surr)	94		70 - 130	09/30/21 11:45	10/03/21 00:12	1

Lab Sample ID: MB 880-8724/5-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8724

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/01/21 10:40	10/03/21 14:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/01/21 10:40	10/03/21 14:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/01/21 10:40	10/03/21 14:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/01/21 10:40	10/03/21 14:09	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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

Lab Sample ID: MB 880-8724/5-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8724

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/01/21 10:40	10/03/21 14:09	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/01/21 10:40	10/03/21 14:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		70 - 130	10/01/21 10:40	10/03/21 14:09	1
1,4-Difluorobenzene (Surr)	97		70 - 130	10/01/21 10:40	10/03/21 14:09	1

Lab Sample ID: LCS 880-8724/1-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8724

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09374		mg/Kg		94	70 - 130
Toluene	0.100	0.08776		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.08321		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	0.200	0.1791		mg/Kg		90	70 - 130
o-Xylene	0.100	0.09170		mg/Kg		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-8724/2-A

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8724

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1013		mg/Kg		101	70 - 130	8	35
Toluene	0.100	0.09310		mg/Kg		93	70 - 130	6	35
Ethylbenzene	0.100	0.08872		mg/Kg		89	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1905		mg/Kg		95	70 - 130	6	35
o-Xylene	0.100	0.09822		mg/Kg		98	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-1329-5 MS

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: BH04

Prep Type: Total/NA

Prep Batch: 8724

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F1 F2	0.100	0.2432	F1	mg/Kg		242	70 - 130
Toluene	<0.00199	U F1 F2	0.100	0.2187	F1	mg/Kg		218	70 - 130
Ethylbenzene	<0.00199	U F1 F2	0.100	0.1995	F1	mg/Kg		199	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.201	0.3915	F1	mg/Kg		195	70 - 130
o-Xylene	<0.00199	U F1 F2	0.100	0.2079	F1	mg/Kg		207	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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

Lab Sample ID: 890-1329-5 MS

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: BH04

Prep Type: Total/NA

Prep Batch: 8724

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	279	S1+	70 - 130
1,4-Difluorobenzene (Surr)	286	S1+	70 - 130

Lab Sample ID: 890-1329-5 MSD

Matrix: Solid

Analysis Batch: 8743

Client Sample ID: BH04

Prep Type: Total/NA

Prep Batch: 8724

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	0.0990	0.08453	F2	mg/Kg		85	70 - 130	97	35
Toluene	<0.00199	U F1 F2	0.0990	0.07163	F2	mg/Kg		72	70 - 130	101	35
Ethylbenzene	<0.00199	U F1 F2	0.0990	0.06494	F1 F2	mg/Kg		66	70 - 130	102	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.198	0.1071	F1 F2	mg/Kg		54	70 - 130	114	35
o-Xylene	<0.00199	U F1 F2	0.0990	0.05992	F1 F2	mg/Kg		61	70 - 130	111	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

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

Lab Sample ID: MB 880-8689/1-A

Matrix: Solid

Analysis Batch: 8701

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8689

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/30/21 15:58	10/01/21 20:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/30/21 15:58	10/01/21 20:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/30/21 15:58	10/01/21 20:00	1

	MB	MB					Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	95		70 - 130				09/30/21 15:58	10/01/21 20:00	1
o-Terphenyl	108		70 - 130				09/30/21 15:58	10/01/21 20:00	1

Lab Sample ID: LCS 880-8689/2-A

Matrix: Solid

Analysis Batch: 8701

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8689

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	859.2		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	978.1		mg/Kg		98	70 - 130		

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	108		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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

Lab Sample ID: LCSD 880-8689/3-A

Matrix: Solid

Analysis Batch: 8701

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8689

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	995.5		mg/Kg		100	70 - 130	15	20
Diesel Range Organics (Over C10-C28)	1000	979.4		mg/Kg		98	70 - 130	0	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	101		70 - 130						
o-Terphenyl	103		70 - 130						

Lab Sample ID: 890-1333-A-41-E MS

Matrix: Solid

Analysis Batch: 8701

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8689

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	<49.8	U	997	865.5		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	997	857.7		mg/Kg		86	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	95		70 - 130								
o-Terphenyl	95		70 - 130								

Lab Sample ID: 890-1333-A-41-F MSD

Matrix: Solid

Analysis Batch: 8701

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8689

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	<49.8	U	999	826.4		mg/Kg		83	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	849.1		mg/Kg		85	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	97		70 - 130								
o-Terphenyl	94		70 - 130								

Lab Sample ID: MB 880-8707/1-A

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8707

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/01/21 08:12	10/01/21 10:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/01/21 08:12	10/01/21 10:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/01/21 08:12	10/01/21 10:16	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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

Lab Sample ID: MB 880-8707/1-A

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8707

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	10/01/21 08:12	10/01/21 10:16	1
o-Terphenyl	100		70 - 130	10/01/21 08:12	10/01/21 10:16	1

Lab Sample ID: LCS 880-8707/2-A

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8707

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1266		mg/Kg		127	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1026		mg/Kg		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-8707/3-A

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8707

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	783.3	*1	mg/Kg		78	70 - 130	47	20
Diesel Range Organics (Over C10-C28)	1000	909.8		mg/Kg		91	70 - 130	12	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: 890-1329-4 MS

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: BH03A

Prep Type: Total/NA

Prep Batch: 8707

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	997	1022		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	997	895.1		mg/Kg		88	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	99		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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

Lab Sample ID: 890-1329-4 MSD

Matrix: Solid

Analysis Batch: 8697

Client Sample ID: BH03A

Prep Type: Total/NA

Prep Batch: 8707

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	<49.8	U *1	999	951.1		mg/Kg		95	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	888.0		mg/Kg		87	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	98		70 - 130								
o-Terphenyl	98		70 - 130								

Lab Sample ID: MB 880-8709/1-A

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/01/21 08:14	10/01/21 10:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/01/21 08:14	10/01/21 10:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/01/21 08:14	10/01/21 10:16	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				10/01/21 08:14	10/01/21 10:16	1
o-Terphenyl	105		70 - 130				10/01/21 08:14	10/01/21 10:16	1

Lab Sample ID: LCS 880-8709/2-A

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	771.1		mg/Kg		77	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	908.2		mg/Kg		91	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1-Chlorooctane	98		70 - 130						
o-Terphenyl	91		70 - 130						

Lab Sample ID: LCSD 880-8709/3-A

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8709

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	829.0		mg/Kg		83	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	878.4		mg/Kg		88	70 - 130	3	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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

Lab Sample ID: LCSD 880-8709/3-A

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8709

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 890-1329-6 MS

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: BH04A

Prep Type: Total/NA

Prep Batch: 8709

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	997	952.8		mg/Kg		96	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.8	U	997	861.1		mg/Kg		86	70 - 130	
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	97		70 - 130							
o-Terphenyl	93		70 - 130							

Lab Sample ID: 890-1329-6 MSD

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: BH04A

Prep Type: Total/NA

Prep Batch: 8709

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	920.7		mg/Kg		92	70 - 130	3	20	
Diesel Range Organics (Over C10-C28)	<49.8	U	999	784.1		mg/Kg		78	70 - 130	9	20	
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	91		70 - 130									
o-Terphenyl	84		70 - 130									

Lab Sample ID: MB 880-8798/1-A

Matrix: Solid

Analysis Batch: 8773

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8798

	MB	MB									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/04/21 11:22	10/04/21 21:30	1		
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/04/21 11:22	10/04/21 21:30	1		
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/04/21 11:22	10/04/21 21:30	1		
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac		
1-Chlorooctane	99		70 - 130				10/04/21 11:22	10/04/21 21:30	1		
o-Terphenyl	121		70 - 130				10/04/21 11:22	10/04/21 21:30	1		

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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

Lab Sample ID: LCS 880-8798/2-A

Matrix: Solid

Analysis Batch: 8773

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8798

Analyte			Spike	LCS	LCS	Unit	D	%Rec	%Rec.		
			Added	Result	Qualifier			Limits			
Gasoline Range Organics (GRO)-C6-C10			1000	899.1		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1049		mg/Kg		105	70 - 130		
								</			

Lab Sample ID: LCSD 880-8798/3-A

Matrix: Solid

Analysis Batch: 8773

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8798

			Spike	LCSD	LCSD				%Rec.	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	880.5		mg/Kg		88	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1027		mg/Kg		103	70 - 130	2	20

Lab Sample ID: 880-6748-A-1-B MS

Matrix: Solid

Analysis Batch: 8773

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8798

	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	995	803.7		mg/Kg		81	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	995	860.4		mg/Kg		85	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	100		70 - 130								
o-Terphenyl	104		70 - 130								

Lab Sample ID: 880-6748-A-1-C MSD

Matrix: Solid

Analysis Batch: 8773

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8798

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	783.8		mg/Kg		79	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	830.9		mg/Kg		82	70 - 130	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	97		70 - 130								

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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

Lab Sample ID: 880-6748-A-1-C MSD

Matrix: Solid

Analysis Batch: 8773

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8798

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	100		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-8727/1-A

Matrix: Solid

Analysis Batch: 8849

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
Chloride	<5.00	U	5.00		mg/Kg			10/04/21 19:51		1

Lab Sample ID: LCS 880-8727/2-A

Matrix: Solid

Analysis Batch: 8849

Client Sample ID: Lab Control Sample

Prep Type: Soluble

			Spike	LCS	LCS				%Rec.	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride			250	262.0		mg/Kg		105	90 - 110	

Lab Sample ID: LCSD 880-8727/3-A

Matrix: Solid

Analysis Batch: 8849

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	261.6		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 880-6650-A-1-J MS

Matrix: Solid

Analysis Batch: 8849

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	522		248	757.7		mg/Kg		95	90 - 110		

Lab Sample ID: 880-6650-A-1-K MSD

Matrix: Solid

Analysis Batch: 8849

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	522		248	758.5		mg/Kg		96	90 - 110	0	20

Lab Sample ID: MB 880-8734/1-A

Matrix: Solid

Analysis Batch: 8968

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac	
Chloride	<5.00	U	5.00		mg/Kg			10/06/21 04:25		1	

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-8734/2-A

Matrix: Solid

Analysis Batch: 8968

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	252.1		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-8734/3-A

Matrix: Solid

Analysis Batch: 8968

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	255.1		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 880-6709-A-13-A MS

Matrix: Solid

Analysis Batch: 8968

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	444		248	705.3		mg/Kg		105	90 - 110

Lab Sample ID: 880-6709-A-13-B MSD

Matrix: Solid

Analysis Batch: 8968

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	444		248	711.7		mg/Kg		108	90 - 110	1	20

Lab Sample ID: 890-1331-A-1-D MS

Matrix: Solid

Analysis Batch: 8968

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	10300	F1	4990	17280	F1	mg/Kg		140	90 - 110

Lab Sample ID: 890-1331-A-1-E MSD

Matrix: Solid

Analysis Batch: 8968

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	10300	F1	4990	17260	F1	mg/Kg		140	90 - 110	0	20

Lab Sample ID: MB 880-8935/1-A

Matrix: Solid

Analysis Batch: 8969

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/05/21 22:40	1

Lab Sample ID: LCS 880-8935/2-A

Matrix: Solid

Analysis Batch: 8969

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	234.6		mg/Kg		94	90 - 110

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 880-8935/3-A

Matrix: Solid

Analysis Batch: 8969

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	235.5		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 880-6829-A-6-B MS

Matrix: Solid

Analysis Batch: 8969

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	14300	F1	5000	20680	F1	mg/Kg		127	90 - 110		

Lab Sample ID: 880-6829-A-6-C MSD

Matrix: Solid

Analysis Batch: 8969

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	14300	F1	5000	20680	F1	mg/Kg		127	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

GC VOA

Prep Batch: 8648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-1	BH01	Total/NA	Solid	5035	
890-1329-2	BH01A	Total/NA	Solid	5035	
890-1329-3	BH03	Total/NA	Solid	5035	
890-1329-4	BH03A	Total/NA	Solid	5035	
MB 880-8648/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-8648/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8648/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1334-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-1334-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 8654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-8654/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 8712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-1	BH01	Total/NA	Solid	8021B	8648
890-1329-2	BH01A	Total/NA	Solid	8021B	8648
890-1329-3	BH03	Total/NA	Solid	8021B	8648
890-1329-4	BH03A	Total/NA	Solid	8021B	8648
MB 880-8648/5-A	Method Blank	Total/NA	Solid	8021B	8648
LCS 880-8648/1-A	Lab Control Sample	Total/NA	Solid	8021B	8648
LCSD 880-8648/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	8648
890-1334-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	8648
890-1334-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	8648

Analysis Batch: 8717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-1	BH01	Total/NA	Solid	Total BTEX	
890-1329-2	BH01A	Total/NA	Solid	Total BTEX	
890-1329-3	BH03	Total/NA	Solid	Total BTEX	
890-1329-4	BH03A	Total/NA	Solid	Total BTEX	

Prep Batch: 8724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-5	BH04	Total/NA	Solid	5035	
890-1329-6	BH04A	Total/NA	Solid	5035	
MB 880-8724/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-8724/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8724/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1329-5 MS	BH04	Total/NA	Solid	5035	
890-1329-5 MSD	BH04	Total/NA	Solid	5035	

Analysis Batch: 8743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-5	BH04	Total/NA	Solid	8021B	8724
890-1329-6	BH04A	Total/NA	Solid	8021B	8724
MB 880-8654/5-A	Method Blank	Total/NA	Solid	8021B	8654
MB 880-8724/5-A	Method Blank	Total/NA	Solid	8021B	8724
LCS 880-8724/1-A	Lab Control Sample	Total/NA	Solid	8021B	8724
LCSD 880-8724/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	8724

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

GC VOA (Continued)

Analysis Batch: 8743 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-5 MS	BH04	Total/NA	Solid	8021B	8724
890-1329-5 MSD	BH04	Total/NA	Solid	8021B	8724

Analysis Batch: 8782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-5	BH04	Total/NA	Solid	Total BTEX	
890-1329-6	BH04A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 8689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-1	BH01	Total/NA	Solid	8015NM Prep	
890-1329-3	BH03	Total/NA	Solid	8015NM Prep	
MB 880-8689/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8689/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8689/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1333-A-41-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1333-A-41-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 8697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-4	BH03A	Total/NA	Solid	8015B NM	8707
890-1329-5	BH04	Total/NA	Solid	8015B NM	8707
MB 880-8707/1-A	Method Blank	Total/NA	Solid	8015B NM	8707
LCS 880-8707/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8707
LCSD 880-8707/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8707
890-1329-4 MS	BH03A	Total/NA	Solid	8015B NM	8707
890-1329-4 MSD	BH03A	Total/NA	Solid	8015B NM	8707

Analysis Batch: 8699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-6	BH04A	Total/NA	Solid	8015B NM	8709
MB 880-8709/1-A	Method Blank	Total/NA	Solid	8015B NM	8709
LCS 880-8709/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8709
LCSD 880-8709/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8709
890-1329-6 MS	BH04A	Total/NA	Solid	8015B NM	8709
890-1329-6 MSD	BH04A	Total/NA	Solid	8015B NM	8709

Analysis Batch: 8701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-1	BH01	Total/NA	Solid	8015B NM	8689
890-1329-3	BH03	Total/NA	Solid	8015B NM	8689
MB 880-8689/1-A	Method Blank	Total/NA	Solid	8015B NM	8689
LCS 880-8689/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8689
LCSD 880-8689/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8689
890-1333-A-41-E MS	Matrix Spike	Total/NA	Solid	8015B NM	8689
890-1333-A-41-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	8689

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

GC Semi VOA

Prep Batch: 8707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-4	BH03A	Total/NA	Solid	8015NM Prep	
890-1329-5	BH04	Total/NA	Solid	8015NM Prep	
MB 880-8707/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8707/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8707/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1329-4 MS	BH03A	Total/NA	Solid	8015NM Prep	
890-1329-4 MSD	BH03A	Total/NA	Solid	8015NM Prep	

Prep Batch: 8709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-6	BH04A	Total/NA	Solid	8015NM Prep	
MB 880-8709/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8709/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8709/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1329-6 MS	BH04A	Total/NA	Solid	8015NM Prep	
890-1329-6 MSD	BH04A	Total/NA	Solid	8015NM Prep	

Analysis Batch: 8773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-2	BH01A	Total/NA	Solid	8015B NM	8798
MB 880-8798/1-A	Method Blank	Total/NA	Solid	8015B NM	8798
LCS 880-8798/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8798
LCSD 880-8798/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8798
880-6748-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	8798
880-6748-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	8798

Analysis Batch: 8793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-1	BH01	Total/NA	Solid	8015 NM	
890-1329-2	BH01A	Total/NA	Solid	8015 NM	
890-1329-3	BH03	Total/NA	Solid	8015 NM	
890-1329-4	BH03A	Total/NA	Solid	8015 NM	
890-1329-5	BH04	Total/NA	Solid	8015 NM	
890-1329-6	BH04A	Total/NA	Solid	8015 NM	

Prep Batch: 8798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-2	BH01A	Total/NA	Solid	8015NM Prep	
MB 880-8798/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8798/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8798/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-6748-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-6748-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 8727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-1	BH01	Soluble	Solid	DI Leach	
890-1329-3	BH03	Soluble	Solid	DI Leach	
MB 880-8727/1-A	Method Blank	Soluble	Solid	DI Leach	

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

HPLC/IC (Continued)

Leach Batch: 8727 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-8727/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8727/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-6650-A-1-J MS	Matrix Spike	Soluble	Solid	DI Leach	
880-6650-A-1-K MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 8734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-4	BH03A	Soluble	Solid	DI Leach	
890-1329-5	BH04	Soluble	Solid	DI Leach	
890-1329-6	BH04A	Soluble	Solid	DI Leach	
MB 880-8734/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8734/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8734/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-6709-A-13-A MS	Matrix Spike	Soluble	Solid	DI Leach	
880-6709-A-13-B MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-1331-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1331-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 8849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-1	BH01	Soluble	Solid	300.0	8727
890-1329-3	BH03	Soluble	Solid	300.0	8727
MB 880-8727/1-A	Method Blank	Soluble	Solid	300.0	8727
LCS 880-8727/2-A	Lab Control Sample	Soluble	Solid	300.0	8727
LCSD 880-8727/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8727
880-6650-A-1-J MS	Matrix Spike	Soluble	Solid	300.0	8727
880-6650-A-1-K MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	8727

Leach Batch: 8935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-2	BH01A	Soluble	Solid	DI Leach	
MB 880-8935/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8935/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8935/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-6829-A-6-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-6829-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 8968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-4	BH03A	Soluble	Solid	300.0	8734
890-1329-5	BH04	Soluble	Solid	300.0	8734
890-1329-6	BH04A	Soluble	Solid	300.0	8734
MB 880-8734/1-A	Method Blank	Soluble	Solid	300.0	8734
LCS 880-8734/2-A	Lab Control Sample	Soluble	Solid	300.0	8734
LCSD 880-8734/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8734
880-6709-A-13-A MS	Matrix Spike	Soluble	Solid	300.0	8734
880-6709-A-13-B MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	8734
890-1331-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	8734
890-1331-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	8734

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

HPLC/IC

Analysis Batch: 8969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1329-2	BH01A	Soluble	Solid	300.0	8935
MB 880-8935/1-A	Method Blank	Soluble	Solid	300.0	8935
LCS 880-8935/2-A	Lab Control Sample	Soluble	Solid	300.0	8935
LCSD 880-8935/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8935
880-6829-A-6-B MS	Matrix Spike	Soluble	Solid	300.0	8935
880-6829-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	8935

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Client Sample ID: BH01

Lab Sample ID: 890-1329-1

Date Collected: 09/27/21 13:39

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	8648	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8712	10/01/21 19:29	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8717	10/01/21 10:20	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8689	09/30/21 15:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8701	10/02/21 02:47	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8727	10/01/21 11:51	CA	XEN MID
Soluble	Analysis	300.0		5			8849	10/04/21 21:29	CH	XEN MID

Client Sample ID: BH01A

Lab Sample ID: 890-1329-2

Date Collected: 09/27/21 13:53

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	8648	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8712	10/01/21 19:49	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8717	10/01/21 10:20	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8798	10/04/21 11:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8773	10/05/21 06:24	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8935	10/05/21 15:14	CH	XEN MID
Soluble	Analysis	300.0		1			8969	10/06/21 11:04	CH	XEN MID

Client Sample ID: BH03

Lab Sample ID: 890-1329-3

Date Collected: 09/28/21 09:26

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	8648	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8712	10/01/21 20:10	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8717	10/01/21 10:20	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8689	09/30/21 15:58	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8701	10/02/21 03:08	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8727	10/01/21 11:51	CA	XEN MID
Soluble	Analysis	300.0		10			8849	10/04/21 21:35	CH	XEN MID

Client Sample ID: BH03A

Lab Sample ID: 890-1329-4

Date Collected: 09/28/21 09:35

Matrix: Solid

Date Received: 09/29/21 09:37

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	8648	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8712	10/01/21 20:30	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8717	10/01/21 10:20	KL	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Client Sample ID: BH03A

Lab Sample ID: 890-1329-4

Date Collected: 09/28/21 09:35

Matrix: Solid

Date Received: 09/29/21 09:37

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			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8707	10/01/21 08:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 11:20	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8734	10/01/21 12:10	CA	XEN MID
Soluble	Analysis	300.0		1			8968	10/06/21 06:05	CH	XEN MID

Client Sample ID: BH04

Lab Sample ID: 890-1329-5

Date Collected: 09/28/21 10:10

Matrix: Solid

Date Received: 09/29/21 09:37

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	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 14:37	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:14	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8707	10/01/21 08:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8697	10/01/21 12:25	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8734	10/01/21 12:10	CA	XEN MID
Soluble	Analysis	300.0		1			8968	10/06/21 06:12	CH	XEN MID

Client Sample ID: BH04A

Lab Sample ID: 890-1329-6

Date Collected: 09/28/21 10:49

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	8724	10/01/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8743	10/03/21 15:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			8782	10/04/21 10:14	MR	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8709	10/01/21 08:14	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8699	10/01/21 11:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8734	10/01/21 12:10	CA	XEN MID
Soluble	Analysis	300.0		10			8968	10/06/21 06:20	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: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

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: RDX 28-12

Job ID: 890-1329-1
SDG: 31403360.007

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1329-1	BH01	Solid	09/27/21 13:39	09/29/21 09:37	1
890-1329-2	BH01A	Solid	09/27/21 13:53	09/29/21 09:37	4
890-1329-3	BH03	Solid	09/28/21 09:26	09/29/21 09:37	1
890-1329-4	BH03A	Solid	09/28/21 09:35	09/29/21 09:37	4
890-1329-5	BH04	Solid	09/28/21 10:10	09/29/21 09:37	1
890-1329-6	BH04A	Solid	09/28/21 10:49	09/29/21 09:37	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)	Jim Raley
Company Name:	WSP USA Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	jim.hernandez@wsp.com

Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PBP <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:	RDX 28-12	Turn Around		
Project Number:	31403360.01	Routine <input checked="" type="checkbox"/>		
P.O. Number:		Rush:		
Sampler's Name:	Luis Del Val	Due Date:		

SAMPLE RECEIPT	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Temperature (°C):	22/20	Thermometer ID	1000007
	Received Inlet:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2
	Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST	Work Order Notes
BH01	S	9/27/2021	1339	1'	1	X	X	X		
BH01A	S	9/27/2021	1353	4'	1	X	X	X		
BH03	S	9/28/2021	926	1'	1	X	X	X		
BH03A	S	9/28/2021	935	4'	1	X	X	X		
BH04	S	9/28/2021	1010	1'	1	X	X	X		
BH04A	S	9/28/2021	1049	4'	1	X	X	X		

890-1329 Chain of Custody

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

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag 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 the 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
		9/29/21 0937			

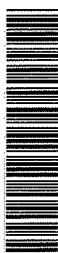
Eurofins Xenco, Carlsbad

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			890-434 1	
Shipping/Receiving				E-Mail:	Jessica.kramer@eurofinsnet.com	State of Origin:	New Mexico	Page:	
Company:		Eurofins Xenco		Accreditations Required (See note)				Page 1 of 1	
Address:		1211 W Florida Ave.		NE LAP - Texas		Job #:		890-1329-1	
City:		Midland		TAT Requested (day's):		Analysis Requested		Preservation Codes	
State, Zip:		TX 79701		PO #:				A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2CO3S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Anchlor S H2SO4 H Ascorbic Acid T TSP Dodecylhydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Z other (specify) Other:	
Project Name		RDX 28-12		Project #		88000203		Total Number of containers	
Site		SSOW#		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Special Instructions/Note:	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=Comp, G=grab) Preservation Code:			
BH01 (890-1329-1)		9/27/21	13 39	Solid	X	X	X		
BH03 (890-1329-3)		9/28/21	Mountain 09 26	Solid	X	X	X		
BH03A (890-1329-4)		9/28/21	Mountain 09 35	Solid	X	X	X		
BH04 (890-1329-5)		9/28/21	Mountain 10 10	Solid	X	X	X		
BH04A (890-1329-6)		9/28/21	Mountain 10 49	Solid	X	X	X		
<p>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/test/method being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.</p>									
<p>Possible Hazard Identification</p> <p>Unconfirmed Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2</p> <p>Empty Kit Relinquished by _____ Date _____ Time _____ Method of Shipment: _____</p> <p>Relinquished by Joe Coy 9.29.21 Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____</p> <p>Relinquished by _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____</p> <p>Custody Seals Intact: _____ Custody Seal No _____ Cooler Temperature(s) °C and Other Remarks: 2.2 2.7</p>									

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1329-1

SDG Number: 31403360.007

Login Number: 1329

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: 890-1329-1

SDG Number: 31403360.007

Login Number: 1329

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland

List Creation: 09/30/21 11:07 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	2.2 / 2.7
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").	True	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1330-1
Laboratory Sample Delivery Group: 31403360.007
Client Project/Site: RDX 28-12

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:
10/5/2021 2:13:12 PM

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

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results through

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

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

Client: WSP USA Inc.
Project/Site: RDX 28-12

Laboratory Job ID: 890-1330-1
SDG: 31403360.007

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
SQL	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: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Job ID: 890-1330-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1330-1

Receipt

The samples were received on 9/29/2021 9:37 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 2.0°C

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH01

Lab Sample ID: 890-1330-1

Date Collected: 09/27/21 10:45

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 17:35	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 17:35	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 17:35	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/01/21 09:00	10/01/21 17:35	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 17:35	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/01/21 09:00	10/01/21 17:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	10/01/21 09:00	10/01/21 17:35	1
1,4-Difluorobenzene (Surr)	81		70 - 130	10/01/21 09:00	10/01/21 17:35	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 13:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 13:00	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	09/30/21 15:11	10/02/21 13:00	1
o-Terphenyl	107		70 - 130	09/30/21 15:11	10/02/21 13:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31.7		4.98		mg/Kg			10/04/21 21:41	1

Client Sample ID: PH01A

Lab Sample ID: 890-1330-2

Date Collected: 09/27/21 10:48

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 17:55	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 17:55	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 17:55	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 17:55	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 17:55	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 17:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	10/01/21 09:00	10/01/21 17:55	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH01A

Lab Sample ID: 890-1330-2

Date Collected: 09/27/21 10:48

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	90		70 - 130	10/01/21 09:00	10/01/21 17:55	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		09/30/21 15:11	10/02/21 13:22	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/30/21 15:11	10/02/21 13:22	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/30/21 15:11	10/02/21 13:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130				09/30/21 15:11	10/02/21 13:22	1
o-Terphenyl	116		70 - 130				09/30/21 15:11	10/02/21 13:22	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.7		5.01		mg/Kg			10/04/21 21:46	1

Client Sample ID: PH02

Lab Sample ID: 890-1330-3

Date Collected: 09/27/21 11:03

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 18:16	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 18:16	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 18:16	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		10/01/21 09:00	10/01/21 18:16	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 18:16	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		10/01/21 09:00	10/01/21 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	10/01/21 09:00	10/01/21 18:16	1
1,4-Difluorobenzene (Surr)	92		70 - 130	10/01/21 09:00	10/01/21 18:16	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH02

Lab Sample ID: 890-1330-3

Date Collected: 09/27/21 11:03

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 13:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 13:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 13:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130				09/30/21 15:11	10/02/21 13:43	1
o-Terphenyl	122		70 - 130				09/30/21 15:11	10/02/21 13:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37.2		4.99		mg/Kg			10/04/21 21:52	1

Client Sample ID: PH02A

Lab Sample ID: 890-1330-4

Date Collected: 09/27/21 11:05

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 18:37	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 18:37	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 18:37	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		10/01/21 09:00	10/01/21 18:37	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/01/21 09:00	10/01/21 18:37	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		10/01/21 09:00	10/01/21 18:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130				10/01/21 09:00	10/01/21 18:37	1
1,4-Difluorobenzene (Surr)	113		70 - 130				10/01/21 09:00	10/01/21 18:37	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 14:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 14:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 14:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130				09/30/21 15:11	10/02/21 14:04	1
o-Terphenyl	129		70 - 130				09/30/21 15:11	10/02/21 14:04	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH02A

Lab Sample ID: 890-1330-4

Date Collected: 09/27/21 11:05

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33.2		5.01		mg/Kg			10/04/21 22:09	1

Client Sample ID: PH03

Lab Sample ID: 890-1330-5

Date Collected: 09/27/21 11:21

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 18:57	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 18:57	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 18:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 18:57	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/01/21 09:00	10/01/21 18:57	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/01/21 09:00	10/01/21 18:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130				10/01/21 09:00	10/01/21 18:57	1
1,4-Difluorobenzene (Surr)	96		70 - 130				10/01/21 09:00	10/01/21 18:57	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 14:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 14:25	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 14:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130				09/30/21 15:11	10/02/21 14:25	1
o-Terphenyl	108		70 - 130				09/30/21 15:11	10/02/21 14:25	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.1		4.97		mg/Kg			10/04/21 22:14	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH03A

Lab Sample ID: 890-1330-6

Date Collected: 09/27/21 11:24

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 19:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 19:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 19:18	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/01/21 09:00	10/01/21 19:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 19:18	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/01/21 09:00	10/01/21 19:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	10/01/21 09:00	10/01/21 19:18	1
1,4-Difluorobenzene (Surr)	99		70 - 130	10/01/21 09:00	10/01/21 19:18	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		09/30/21 15:11	10/02/21 14:46	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/30/21 15:11	10/02/21 14:46	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/30/21 15:11	10/02/21 14:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	09/30/21 15:11	10/02/21 14:46	1
o-Terphenyl	113		70 - 130	09/30/21 15:11	10/02/21 14:46	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46.8		4.95		mg/Kg			10/04/21 22:35	1

Client Sample ID: PH04

Lab Sample ID: 890-1330-7

Date Collected: 09/27/21 11:39

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/01/21 09:00	10/01/21 19:39	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/01/21 09:00	10/01/21 19:39	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/01/21 09:00	10/01/21 19:39	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		10/01/21 09:00	10/01/21 19:39	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/01/21 09:00	10/01/21 19:39	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		10/01/21 09:00	10/01/21 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	10/01/21 09:00	10/01/21 19:39	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH04

Lab Sample ID: 890-1330-7

Date Collected: 09/27/21 11:39

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 0.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	79		70 - 130	10/01/21 09:00	10/01/21 19:39	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 15:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 15:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 15:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130				09/30/21 15:11	10/02/21 15:08	1
o-Terphenyl	110		70 - 130				09/30/21 15:11	10/02/21 15:08	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.8		4.95		mg/Kg			10/05/21 01:44	1

Client Sample ID: PH04A

Lab Sample ID: 890-1330-8

Date Collected: 09/27/21 11:42

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:00	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/01/21 09:00	10/01/21 20:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:00	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/01/21 09:00	10/01/21 20:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	10/01/21 09:00	10/01/21 20:00	1
1,4-Difluorobenzene (Surr)	94		70 - 130	10/01/21 09:00	10/01/21 20:00	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH04A

Lab Sample ID: 890-1330-8

Date Collected: 09/27/21 11:42

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 15:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 15:51	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 15:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130				09/30/21 15:11	10/02/21 15:51	1
o-Terphenyl	114		70 - 130				09/30/21 15:11	10/02/21 15:51	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.3		5.04		mg/Kg			10/05/21 01:51	1

Client Sample ID: PH05

Lab Sample ID: 890-1330-9

Date Collected: 09/27/21 12:53

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:20	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/01/21 09:00	10/01/21 20:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:20	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/01/21 09:00	10/01/21 20:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130				10/01/21 09:00	10/01/21 20:20	1
1,4-Difluorobenzene (Surr)	104		70 - 130				10/01/21 09:00	10/01/21 20:20	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 16:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 16:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 16:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130				09/30/21 15:11	10/02/21 16:13	1
o-Terphenyl	112		70 - 130				09/30/21 15:11	10/02/21 16:13	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH05

Lab Sample ID: 890-1330-9

Date Collected: 09/27/21 12:53

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 0.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.5		5.01		mg/Kg			10/05/21 01:58	1

Client Sample ID: PH05A

Lab Sample ID: 890-1330-10

Date Collected: 09/27/21 12:58

Matrix: Solid

Date Received: 09/29/21 09:37

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/01/21 09:00	10/01/21 20:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 20:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/01/21 09:00	10/01/21 20:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130				10/01/21 09:00	10/01/21 20:41	1
1,4-Difluorobenzene (Surr)	113		70 - 130				10/01/21 09:00	10/01/21 20:41	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/04/21 10:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 16:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 16:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/30/21 15:11	10/02/21 16:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130				09/30/21 15:11	10/02/21 16:34	1
o-Terphenyl	113		70 - 130				09/30/21 15:11	10/02/21 16:34	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21.7		4.99		mg/Kg			10/05/21 02:05	1

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Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

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)
890-1330-1	PH01	84	81
890-1330-2	PH01A	96	90
890-1330-3	PH02	89	92
890-1330-4	PH02A	106	113
890-1330-5	PH03	96	96
890-1330-6	PH03A	112	99
890-1330-7	PH04	102	79
890-1330-8	PH04A	106	94
890-1330-9	PH05	103	104
890-1330-10	PH05A	98	113
890-1337-A-1-B MS	Matrix Spike	148 S1+	70
890-1337-A-1-C MSD	Matrix Spike Duplicate	96	97
LCS 880-8649/1-A	Lab Control Sample	94	90
LCSD 880-8649/2-A	Lab Control Sample Dup	96	100
MB 880-8649/5-A	Method Blank	106	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)
880-6676-A-1-C MS	Matrix Spike	97	93
880-6676-A-1-D MSD	Matrix Spike Duplicate	100	95
890-1330-1	PH01	97	107
890-1330-2	PH01A	104	116
890-1330-3	PH02	110	122
890-1330-4	PH02A	112	129
890-1330-5	PH03	98	108
890-1330-6	PH03A	104	113
890-1330-7	PH04	101	110
890-1330-8	PH04A	107	114
890-1330-9	PH05	102	112
890-1330-10	PH05A	103	113
LCS 880-8688/2-A	Lab Control Sample	112	115
LCSD 880-8688/3-A	Lab Control Sample Dup	109	112
MB 880-8688/1-A	Method Blank	111	129
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-8649/5-A

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 12:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 12:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 12:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/01/21 09:00	10/01/21 12:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/01/21 09:00	10/01/21 12:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/01/21 09:00	10/01/21 12:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	10/01/21 09:00	10/01/21 12:42	1
1,4-Difluorobenzene (Surr)	102		70 - 130	10/01/21 09:00	10/01/21 12:42	1

Lab Sample ID: LCS 880-8649/1-A

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08010		mg/Kg		80	70 - 130
Toluene	0.100	0.09485		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.09154		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	0.200	0.1634		mg/Kg		82	70 - 130
o-Xylene	0.100	0.07737		mg/Kg		77	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Lab Sample ID: LCSD 880-8649/2-A

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8649

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08627		mg/Kg		86	70 - 130	7	35
Toluene	0.100	0.1029		mg/Kg		103	70 - 130	8	35
Ethylbenzene	0.100	0.1034		mg/Kg		103	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.1758		mg/Kg		88	70 - 130	7	35
o-Xylene	0.100	0.08378		mg/Kg		84	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 890-1337-A-1-C MSD

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8649

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.05294		mg/Kg					
Toluene	<0.00200	U	0.0998	0.08124		mg/Kg					

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

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

Lab Sample ID: 890-1337-A-1-C MSD

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8649

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00200	U	0.0998	0.08055		mg/Kg					
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1475		mg/Kg					
o-Xylene	<0.00200	U	0.0998	0.06754		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-1337-A-1-B MS

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	148	S1+	70 - 130
1,4-Difluorobenzene (Surr)	70		70 - 130

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

Lab Sample ID: MB 880-8688/1-A

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8688

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 10:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 10:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/30/21 15:11	10/02/21 10:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	09/30/21 15:11	10/02/21 10:10	1
o-Terphenyl	129		70 - 130	09/30/21 15:11	10/02/21 10:10	1

Lab Sample ID: LCS 880-8688/2-A

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	898.6		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1135		mg/Kg		114	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	115		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

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

Lab Sample ID: LCSD 880-8688/3-A

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8688

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	912.9		mg/Kg		91	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	1108		mg/Kg		111	70 - 130	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	109		70 - 130						
o-Terphenyl	112		70 - 130						

Lab Sample ID: 880-6676-A-1-C MS

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8688

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	<49.8	U	997	866.0		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)	218		997	926.5		mg/Kg		71	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	97		70 - 130								
o-Terphenyl	93		70 - 130								

Lab Sample ID: 880-6676-A-1-D MSD

Matrix: Solid

Analysis Batch: 8766

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8688

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	<49.8	U	999	903.1		mg/Kg		90	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	218		999	966.2		mg/Kg		75	70 - 130	4	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	100		70 - 130								
o-Terphenyl	95		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-8728/1-A

Matrix: Solid

Analysis Batch: 8845

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/04/21 22:31	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-8728/2-A

Matrix: Solid

Analysis Batch: 8845

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 880-8728/3-A

Matrix: Solid

Analysis Batch: 8845

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	262.0		mg/Kg		105	90 - 110	2	20

Lab Sample ID: 890-1324-A-6-D MS

Matrix: Solid

Analysis Batch: 8845

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	98.3		250	342.4		mg/Kg		98	90 - 110

Lab Sample ID: 890-1324-A-6-E MSD

Matrix: Solid

Analysis Batch: 8845

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	98.3		250	345.3		mg/Kg		99	90 - 110	1	20

Lab Sample ID: MB 880-8727/1-A

Matrix: Solid

Analysis Batch: 8849

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/04/21 19:51	1

Lab Sample ID: LCS 880-8727/2-A

Matrix: Solid

Analysis Batch: 8849

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	262.0		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-8727/3-A

Matrix: Solid

Analysis Batch: 8849

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	261.6		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-1330-3 MS

Matrix: Solid

Analysis Batch: 8849

Client Sample ID: PH02

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	37.2		250	303.4		mg/Kg		107	90 - 110

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-1330-3 MSD									Client Sample ID: PH02		
Matrix: Solid									Prep Type: Soluble		
Analysis Batch: 8849											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	37.2		250	304.4		mg/Kg		107	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

GC VOA

Prep Batch: 8649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-1	PH01	Total/NA	Solid	5035	
890-1330-2	PH01A	Total/NA	Solid	5035	
890-1330-3	PH02	Total/NA	Solid	5035	
890-1330-4	PH02A	Total/NA	Solid	5035	
890-1330-5	PH03	Total/NA	Solid	5035	
890-1330-6	PH03A	Total/NA	Solid	5035	
890-1330-7	PH04	Total/NA	Solid	5035	
890-1330-8	PH04A	Total/NA	Solid	5035	
890-1330-9	PH05	Total/NA	Solid	5035	
890-1330-10	PH05A	Total/NA	Solid	5035	
MB 880-8649/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-8649/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8649/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1337-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 8713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-1	PH01	Total/NA	Solid	8021B	8649
890-1330-2	PH01A	Total/NA	Solid	8021B	8649
890-1330-3	PH02	Total/NA	Solid	8021B	8649
890-1330-4	PH02A	Total/NA	Solid	8021B	8649
890-1330-5	PH03	Total/NA	Solid	8021B	8649
890-1330-6	PH03A	Total/NA	Solid	8021B	8649
890-1330-7	PH04	Total/NA	Solid	8021B	8649
890-1330-8	PH04A	Total/NA	Solid	8021B	8649
890-1330-9	PH05	Total/NA	Solid	8021B	8649
890-1330-10	PH05A	Total/NA	Solid	8021B	8649
MB 880-8649/5-A	Method Blank	Total/NA	Solid	8021B	8649
LCS 880-8649/1-A	Lab Control Sample	Total/NA	Solid	8021B	8649
LCSD 880-8649/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	8649
890-1337-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	
890-1337-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	8649

Analysis Batch: 8723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-1	PH01	Total/NA	Solid	Total BTEX	
890-1330-2	PH01A	Total/NA	Solid	Total BTEX	
890-1330-3	PH02	Total/NA	Solid	Total BTEX	
890-1330-4	PH02A	Total/NA	Solid	Total BTEX	
890-1330-5	PH03	Total/NA	Solid	Total BTEX	
890-1330-6	PH03A	Total/NA	Solid	Total BTEX	
890-1330-7	PH04	Total/NA	Solid	Total BTEX	
890-1330-8	PH04A	Total/NA	Solid	Total BTEX	
890-1330-9	PH05	Total/NA	Solid	Total BTEX	
890-1330-10	PH05A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 8688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-1	PH01	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

GC Semi VOA (Continued)

Prep Batch: 8688 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-2	PH01A	Total/NA	Solid	8015NM Prep	
890-1330-3	PH02	Total/NA	Solid	8015NM Prep	
890-1330-4	PH02A	Total/NA	Solid	8015NM Prep	
890-1330-5	PH03	Total/NA	Solid	8015NM Prep	
890-1330-6	PH03A	Total/NA	Solid	8015NM Prep	
890-1330-7	PH04	Total/NA	Solid	8015NM Prep	
890-1330-8	PH04A	Total/NA	Solid	8015NM Prep	
890-1330-9	PH05	Total/NA	Solid	8015NM Prep	
890-1330-10	PH05A	Total/NA	Solid	8015NM Prep	
MB 880-8688/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8688/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8688/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-6676-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-6676-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 8766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-1	PH01	Total/NA	Solid	8015B NM	8688
890-1330-2	PH01A	Total/NA	Solid	8015B NM	8688
890-1330-3	PH02	Total/NA	Solid	8015B NM	8688
890-1330-4	PH02A	Total/NA	Solid	8015B NM	8688
890-1330-5	PH03	Total/NA	Solid	8015B NM	8688
890-1330-6	PH03A	Total/NA	Solid	8015B NM	8688
890-1330-7	PH04	Total/NA	Solid	8015B NM	8688
890-1330-8	PH04A	Total/NA	Solid	8015B NM	8688
890-1330-9	PH05	Total/NA	Solid	8015B NM	8688
890-1330-10	PH05A	Total/NA	Solid	8015B NM	8688
MB 880-8688/1-A	Method Blank	Total/NA	Solid	8015B NM	8688
LCS 880-8688/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8688
LCSD 880-8688/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8688
880-6676-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	8688
880-6676-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	8688

Analysis Batch: 8793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-1	PH01	Total/NA	Solid	8015 NM	
890-1330-2	PH01A	Total/NA	Solid	8015 NM	
890-1330-3	PH02	Total/NA	Solid	8015 NM	
890-1330-4	PH02A	Total/NA	Solid	8015 NM	
890-1330-5	PH03	Total/NA	Solid	8015 NM	
890-1330-6	PH03A	Total/NA	Solid	8015 NM	
890-1330-7	PH04	Total/NA	Solid	8015 NM	
890-1330-8	PH04A	Total/NA	Solid	8015 NM	
890-1330-9	PH05	Total/NA	Solid	8015 NM	
890-1330-10	PH05A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 8727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-1	PH01	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

HPLC/IC (Continued)

Leach Batch: 8727 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-2	PH01A	Soluble	Solid	DI Leach	
890-1330-3	PH02	Soluble	Solid	DI Leach	
890-1330-4	PH02A	Soluble	Solid	DI Leach	
890-1330-5	PH03	Soluble	Solid	DI Leach	
890-1330-6	PH03A	Soluble	Solid	DI Leach	
MB 880-8727/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8727/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8727/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1330-3 MS	PH02	Soluble	Solid	DI Leach	
890-1330-3 MSD	PH02	Soluble	Solid	DI Leach	

Leach Batch: 8728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-7	PH04	Soluble	Solid	DI Leach	
890-1330-8	PH04A	Soluble	Solid	DI Leach	
890-1330-9	PH05	Soluble	Solid	DI Leach	
890-1330-10	PH05A	Soluble	Solid	DI Leach	
MB 880-8728/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8728/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8728/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1324-A-6-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1324-A-6-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 8845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-7	PH04	Soluble	Solid	300.0	8728
890-1330-8	PH04A	Soluble	Solid	300.0	8728
890-1330-9	PH05	Soluble	Solid	300.0	8728
890-1330-10	PH05A	Soluble	Solid	300.0	8728
MB 880-8728/1-A	Method Blank	Soluble	Solid	300.0	8728
LCS 880-8728/2-A	Lab Control Sample	Soluble	Solid	300.0	8728
LCSD 880-8728/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8728
890-1324-A-6-D MS	Matrix Spike	Soluble	Solid	300.0	8728
890-1324-A-6-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	8728

Analysis Batch: 8849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1330-1	PH01	Soluble	Solid	300.0	8727
890-1330-2	PH01A	Soluble	Solid	300.0	8727
890-1330-3	PH02	Soluble	Solid	300.0	8727
890-1330-4	PH02A	Soluble	Solid	300.0	8727
890-1330-5	PH03	Soluble	Solid	300.0	8727
890-1330-6	PH03A	Soluble	Solid	300.0	8727
MB 880-8727/1-A	Method Blank	Soluble	Solid	300.0	8727
LCS 880-8727/2-A	Lab Control Sample	Soluble	Solid	300.0	8727
LCSD 880-8727/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8727
890-1330-3 MS	PH02	Soluble	Solid	300.0	8727
890-1330-3 MSD	PH02	Soluble	Solid	300.0	8727

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH01

Lab Sample ID: 890-1330-1

Date Collected: 09/27/21 10:45

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 17:35	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 13:00	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8727	10/01/21 11:51	CA	XEN MID
Soluble	Analysis	300.0		1			8849	10/04/21 21:41	CH	XEN MID

Client Sample ID: PH01A

Lab Sample ID: 890-1330-2

Date Collected: 09/27/21 10:48

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 17:55	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 13:22	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	8727	10/01/21 11:51	CA	XEN MID
Soluble	Analysis	300.0		1			8849	10/04/21 21:46	CH	XEN MID

Client Sample ID: PH02

Lab Sample ID: 890-1330-3

Date Collected: 09/27/21 11:03

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 18:16	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 13:43	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	8727	10/01/21 11:51	CA	XEN MID
Soluble	Analysis	300.0		1			8849	10/04/21 21:52	CH	XEN MID

Client Sample ID: PH02A

Lab Sample ID: 890-1330-4

Date Collected: 09/27/21 11:05

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 18:37	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH02A

Lab Sample ID: 890-1330-4

Date Collected: 09/27/21 11:05

Matrix: Solid

Date Received: 09/29/21 09:37

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			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 14:04	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	8727	10/01/21 11:51	CA	XEN MID
Soluble	Analysis	300.0		1			8849	10/04/21 22:09	CH	XEN MID

Client Sample ID: PH03

Lab Sample ID: 890-1330-5

Date Collected: 09/27/21 11:21

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 18:57	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 14:25	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	8727	10/01/21 11:51	CA	XEN MID
Soluble	Analysis	300.0		1			8849	10/04/21 22:14	CH	XEN MID

Client Sample ID: PH03A

Lab Sample ID: 890-1330-6

Date Collected: 09/27/21 11:24

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 19:18	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 14:46	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8727	10/01/21 11:51	CA	XEN MID
Soluble	Analysis	300.0		1			8849	10/04/21 22:35	CH	XEN MID

Client Sample ID: PH04

Lab Sample ID: 890-1330-7

Date Collected: 09/27/21 11:39

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 19:39	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 15:08	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Client Sample ID: PH04

Lab Sample ID: 890-1330-7

Date Collected: 09/27/21 11:39

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	8728	10/01/21 11:56	CA	XEN MID
Soluble	Analysis	300.0		1			8845	10/05/21 01:44	CH	XEN MID

Client Sample ID: PH04A

Lab Sample ID: 890-1330-8

Date Collected: 09/27/21 11:42

Matrix: Solid

Date Received: 09/29/21 09:37

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	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 20:00	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 15:51	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	8728	10/01/21 11:56	CA	XEN MID
Soluble	Analysis	300.0		1			8845	10/05/21 01:51	CH	XEN MID

Client Sample ID: PH05

Lab Sample ID: 890-1330-9

Date Collected: 09/27/21 12:53

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 20:20	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 16:13	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	8728	10/01/21 11:56	CA	XEN MID
Soluble	Analysis	300.0		1			8845	10/05/21 01:58	CH	XEN MID

Client Sample ID: PH05A

Lab Sample ID: 890-1330-10

Date Collected: 09/27/21 12:58

Matrix: Solid

Date Received: 09/29/21 09:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 20:41	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8793	10/04/21 10:33	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8688	09/30/21 15:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8766	10/02/21 16:34	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	8728	10/01/21 11:56	CA	XEN MID
Soluble	Analysis	300.0		1			8845	10/05/21 02:05	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

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

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Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

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: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

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: RDX 28-12

Job ID: 890-1330-1
SDG: 31403360.007

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1330-1	PH01	Solid	09/27/21 10:45	09/29/21 09:37	0.5
890-1330-2	PH01A	Solid	09/27/21 10:48	09/29/21 09:37	1
890-1330-3	PH02	Solid	09/27/21 11:03	09/29/21 09:37	0.5
890-1330-4	PH02A	Solid	09/27/21 11:05	09/29/21 09:37	1
890-1330-5	PH03	Solid	09/27/21 11:21	09/29/21 09:37	0.5
890-1330-6	PH03A	Solid	09/27/21 11:24	09/29/21 09:37	1
890-1330-7	PH04	Solid	09/27/21 11:39	09/29/21 09:37	0.5
890-1330-8	PH04A	Solid	09/27/21 11:42	09/29/21 09:37	1
890-1330-9	PH05	Solid	09/27/21 12:53	09/29/21 09:37	0.5
890-1330-10	PH05A	Solid	09/27/21 12:58	09/29/21 09:37	1



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)	Jim Raley
Company Name:	WSP USA Inc.	Company Name:	WPX Energy
Address:	3300 North A Street	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	jim.raley@wsp.com

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

Project Name:	RDX 28-12	Turn Around	ANALYSIS REQUEST	Work Order Notes
Project Number:	31403360.01	Route <input checked="" type="checkbox"/> Rush:		
P.O. Number:		Due Date:		
Sampler's Name:	Luis Del Val			

SAMPLE RECEIPT	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Temperature (°C):	2.2 / 2.0	Thermometer ID	TW-007
	Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2
	Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Total Containers:	
	Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		



890-1330 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers																Sample Comments
					TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)														
PH01	S	9/27/2021	1045	0.5'	X	X	X														
PH01A	S	9/27/2021	1048	1'	X	X	X														
PH02	S	9/27/2021	1103	0.5'	X	X	X														
PH02A	S	9/27/2021	1105	1'	X	X	X														
PH03	S	9/27/2021	1121	0.5'	X	X	X														
PH03A	S	9/27/2021	1124	1'	X	X	X														
PH04	S	9/27/2021	1139	0.5'	X	X	X														
PH04A	S	9/27/2021	1142	1'	X	X	X														
PH05	S	9/27/2021	1253	0.5'	X	X	X														
PH05A	S	9/27/2021	1258	1'	X	X	X														

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb 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
		9.29.21 09:37			

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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



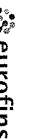
Environment Testing
America

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No								
Client Contact:	Phone	Kramer Jessica			890-434 1								
Shipping/Receiving	E-Mail	Jessica.Kramer@eurofinset.com	State of Origin	Page 1 of 2									
Company:	Accreditations Required (See note)	NE LAP - Texas	New Mexico	Job #:	890-1330-1								
Eurofins Xenco	Due Date Requested	10/5/2021	Analysis Requested										
Address	City	Midland	TAT Requested (days)										
State, Zip:	TX	79701	PO #										
Phone:	432-704-5440(Tel)	WO #:	Field Filtered Sample (Yes or No)										
Email		Project #	Perform MS/MSD (Yes or No)										
Project Name	RDX 28-12	SSOW#:	300_ORGFM_28D/DI_LEACH Chloride										
Site			8015MOD_NM/8015NM_S_Prep Full TPH										
			8021B/5035FP_Calc BTEX										
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=oil, BT=tissue, A=air)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/DI_LEACH Chloride	8015MOD_NM/8015NM_S_Prep Full TPH	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
PH01 (890-1330-1)	9/27/21	10 45		Solid			X	X	X	X	1		
PH01A (890-1330-2)	9/27/21	10 48		Solid			X	X	X	X	1		
PH02 (890-1330-3)	9/27/21	11 03		Solid			X	X	X	X	1		
PH02A (890-1330-4)	9/27/21	11 05		Solid			X	X	X	X	1		
PH03 (890-1330-5)	9/27/21	11 21		Solid			X	X	X	X	1		
PH03A (890-1330-6)	9/27/21	11 24		Solid			X	X	X	X	1		
PH04 (890-1330-7)	9/27/21	11 39		Solid			X	X	X	X	1		
PH04A (890-1330-8)	9/27/21	11 42		Solid			X	X	X	X	1		
PH05 (890-1330-9)	9/27/21	12 53		Solid			X	X	X	X	1		
<p>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/test/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other institutions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.</p>													
Possible Hazard Identification													
Unconfirmed													
Deliverable Requested I II III IV, Other (specify)													
Primary Deliverable Rank 2													
Special Instructions/QAC Requirements													
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months													
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)													
Empty Kit Relinquished by:													
Relinquished by: <i>Chae Gaf</i> 9.29.21													
Relinquished by: <i>Chae Gaf</i> 9.29.21													
Relinquished by: <i>Chae Gaf</i> 9.29.21													
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No													
Custody Seal No													
Cooler Temperature(s) °C and Other Remarks: 22.12.7													

Eurofins Xenco Carlebad

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

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No:							
Client Contact:		Kramer Jessica			890-434 2							
Shipping/Receiving	Phone:	E-Mail	Jessica.kramer@eurofinsllc.com	State of Origin:	Page 2 of 2							
Company:	Eurofins Xenco	Accreditations Required (See note)		New Mexico	Page 2 of 2							
Address:	1211 W. Florida Ave.	Due Date Requested	10/5/2021	Job #:	890-1330-1							
City:	Midland	TAT Requested (days):		Preservation Codes								
State Zip:	TX 79701	PO #:		A. HCL B. NaOH C. Zn Acetate D. Nitric Acid E. - NaHSO4 F. MeOH G. Amchlor H. Ascorbic Acid I. Ice J. DI Water K. EDTA L. EDA M. Hexane N. None O. AsHAcO2 P. Na2OAS Q. Na2SO3 R. Na2SO3 S. - H2SO4 T. TSP Dodecylhydrate U. Acetone V. MCAA W. pH 4-5 Z. other (specify)								
Phone	432-704-5440(Tel)	W/O #:		Other:								
Project Name	RDX 28-12	Project #	88000203									
Site		SSOW#:										
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefl, BT=BIOSOL, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/DI_LEACH Chloride	8015MOD_NM/8015NM_S_Prep Full TPH	8021B/6035FP_Calc BTEX	Total Number of containers	Special Instructions/Note
PH05A (890-1330-10)	9/27/21	12:38	Mountain	Solid		X	X	X			1	
Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.												
Possible Hazard Identification												
Unconfirmed												
Deliverable Requested I II III IV Other (specify)												
Primary Deliverable Rank 2												
Empty Kit Relinquished by:												
Relinquished by: Date/Time: Company:												
Relinquished by: Date/Time: Company:												
Relinquished by: Date/Time: Company:												
Custody Seals Intact: Custody Seal No												
Delta Yes Delta No												
Cooler Temperature (°C and °F) Other Remarks:												

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1330-1

SDG Number: 31403360.007

Login Number: 1330

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: 890-1330-1

SDG Number: 31403360.007

Login Number: 1330

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland

List Creation: 09/30/21 11:08 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	2.2 / 2.7
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").	True	



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1347-1

Laboratory Sample Delivery Group: Eddy County
Client Project/Site: RDX Federal 28-12h

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:
10/6/2021 5:32:55 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: RDX Federal 28-12h

Laboratory Job ID: 890-1347-1
SDG: Eddy County

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Job ID: 890-1347-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-1347-1****Receipt**

The samples were received on 10/1/2021 9:47 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-8803 and analytical batch 880-8886 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-8878/1-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-8731 and analytical batch 880-8851 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: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH05

Lab Sample ID: 890-1347-1

Date Collected: 09/29/21 09:30

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 16:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 16:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 16:57	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/04/21 13:37	10/05/21 16:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 16:57	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/04/21 13:37	10/05/21 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	10/04/21 13:37	10/05/21 16:57	1
1,4-Difluorobenzene (Surr)	104		70 - 130	10/04/21 13:37	10/05/21 16:57	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 11:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 11:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 11:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	10/05/21 08:25	10/05/21 11:54	1
o-Terphenyl	122		70 - 130	10/05/21 08:25	10/05/21 11:54	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	244	F1	4.99		mg/Kg			10/05/21 09:57	1

Client Sample ID: BH05A

Lab Sample ID: 890-1347-2

Date Collected: 09/29/21 09:45

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/04/21 13:37	10/05/21 17:18	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/04/21 13:37	10/05/21 17:18	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/04/21 13:37	10/05/21 17:18	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		10/04/21 13:37	10/05/21 17:18	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/04/21 13:37	10/05/21 17:18	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		10/04/21 13:37	10/05/21 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	10/04/21 13:37	10/05/21 17:18	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH05A

Lab Sample ID: 890-1347-2

Date Collected: 09/29/21 09:45

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	119		70 - 130	10/04/21 13:37	10/05/21 17:18	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/05/21 08:25	10/05/21 12:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/05/21 08:25	10/05/21 12:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/05/21 08:25	10/05/21 12:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130				10/05/21 08:25	10/05/21 12:59	1
o-Terphenyl	121		70 - 130				10/05/21 08:25	10/05/21 12:59	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34.6		5.05		mg/Kg			10/05/21 10:16	1

Client Sample ID: BH06

Lab Sample ID: 890-1347-3

Date Collected: 09/29/21 10:05

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/04/21 13:37	10/05/21 17:38	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/04/21 13:37	10/05/21 17:38	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/04/21 13:37	10/05/21 17:38	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/04/21 13:37	10/05/21 17:38	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/04/21 13:37	10/05/21 17:38	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/04/21 13:37	10/05/21 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	10/04/21 13:37	10/05/21 17:38	1
1,4-Difluorobenzene (Surr)	114		70 - 130	10/04/21 13:37	10/05/21 17:38	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH06

Lab Sample ID: 890-1347-3

Date Collected: 09/29/21 10:05

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 13:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 13:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 13:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130				10/05/21 08:25	10/05/21 13:21	1
o-Terphenyl	121		70 - 130				10/05/21 08:25	10/05/21 13:21	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22300		251		mg/Kg			10/05/21 10:23	50

Client Sample ID: BH06A

Lab Sample ID: 890-1347-4

Date Collected: 09/29/21 10:10

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/04/21 13:37	10/05/21 17:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/04/21 13:37	10/05/21 17:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/04/21 13:37	10/05/21 17:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/04/21 13:37	10/05/21 17:59	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/04/21 13:37	10/05/21 17:59	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/04/21 13:37	10/05/21 17:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130				10/04/21 13:37	10/05/21 17:59	1
1,4-Difluorobenzene (Surr)	89		70 - 130				10/04/21 13:37	10/05/21 17:59	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/05/21 08:25	10/05/21 13:43	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/05/21 08:25	10/05/21 13:43	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/05/21 08:25	10/05/21 13:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130				10/05/21 08:25	10/05/21 13:43	1
o-Terphenyl	119		70 - 130				10/05/21 08:25	10/05/21 13:43	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH06A

Lab Sample ID: 890-1347-4

Date Collected: 09/29/21 10:10

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1000		4.97		mg/Kg			10/05/21 10:41	1

Client Sample ID: BH07

Lab Sample ID: 890-1347-5

Date Collected: 09/29/21 10:15

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/04/21 13:37	10/05/21 18:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/04/21 13:37	10/05/21 18:20	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/04/21 13:37	10/05/21 18:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/04/21 13:37	10/05/21 18:20	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/04/21 13:37	10/05/21 18:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/04/21 13:37	10/05/21 18:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130				10/04/21 13:37	10/05/21 18:20	1
1,4-Difluorobenzene (Surr)	87		70 - 130				10/04/21 13:37	10/05/21 18:20	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/05/21 08:25	10/05/21 14:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/05/21 08:25	10/05/21 14:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/05/21 08:25	10/05/21 14:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130				10/05/21 08:25	10/05/21 14:05	1
o-Terphenyl	113		70 - 130				10/05/21 08:25	10/05/21 14:05	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7600		49.5		mg/Kg			10/05/21 10:48	10

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH07A

Lab Sample ID: 890-1347-6

Date Collected: 09/29/21 10:30

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 18:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 18:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 18:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/04/21 13:37	10/05/21 18:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 18:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/04/21 13:37	10/05/21 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	10/04/21 13:37	10/05/21 18:40	1
1,4-Difluorobenzene (Surr)	93		70 - 130	10/04/21 13:37	10/05/21 18:40	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 14:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 14:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	10/05/21 08:25	10/05/21 14:27	1
o-Terphenyl	112		70 - 130	10/05/21 08:25	10/05/21 14:27	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	170		4.98		mg/Kg			10/05/21 10:54	1

Client Sample ID: BH08

Lab Sample ID: 890-1347-7

Date Collected: 09/29/21 11:30

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 19:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 19:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 19:01	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/04/21 13:37	10/05/21 19:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 19:01	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/04/21 13:37	10/05/21 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	10/04/21 13:37	10/05/21 19:01	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH08

Lab Sample ID: 890-1347-7

Date Collected: 09/29/21 11:30

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130	10/04/21 13:37	10/05/21 19:01	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/05/21 08:25	10/05/21 14:48	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/05/21 08:25	10/05/21 14:48	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/05/21 08:25	10/05/21 14:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130				10/05/21 08:25	10/05/21 14:48	1
o-Terphenyl	119		70 - 130				10/05/21 08:25	10/05/21 14:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17600		99.0		mg/Kg			10/05/21 11:00	20

Client Sample ID: BH08A

Lab Sample ID: 890-1347-8

Date Collected: 09/29/21 11:45

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/04/21 13:37	10/05/21 19:22	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/04/21 13:37	10/05/21 19:22	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/04/21 13:37	10/05/21 19:22	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		10/04/21 13:37	10/05/21 19:22	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/04/21 13:37	10/05/21 19:22	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		10/04/21 13:37	10/05/21 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	10/04/21 13:37	10/05/21 19:22	1
1,4-Difluorobenzene (Surr)	98		70 - 130	10/04/21 13:37	10/05/21 19:22	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH08A

Lab Sample ID: 890-1347-8

Date Collected: 09/29/21 11:45

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		10/05/21 08:25	10/05/21 15:10	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/05/21 08:25	10/05/21 15:10	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/05/21 08:25	10/05/21 15:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130				10/05/21 08:25	10/05/21 15:10	1
o-Terphenyl	121		70 - 130				10/05/21 08:25	10/05/21 15:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4510		25.2		mg/Kg			10/05/21 11:06	5

Client Sample ID: BH09

Lab Sample ID: 890-1347-9

Date Collected: 09/29/21 12:30

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/04/21 13:37	10/05/21 19:43	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/04/21 13:37	10/05/21 19:43	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/04/21 13:37	10/05/21 19:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/04/21 13:37	10/05/21 19:43	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/04/21 13:37	10/05/21 19:43	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/04/21 13:37	10/05/21 19:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130				10/04/21 13:37	10/05/21 19:43	1
1,4-Difluorobenzene (Surr)	75		70 - 130				10/04/21 13:37	10/05/21 19:43	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 15:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 15:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 15:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130				10/05/21 08:25	10/05/21 15:32	1
o-Terphenyl	115		70 - 130				10/05/21 08:25	10/05/21 15:32	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH09

Lab Sample ID: 890-1347-9

Date Collected: 09/29/21 12:30

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 3

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15300		100		mg/Kg			10/05/21 11:13	20

Client Sample ID: BH09A

Lab Sample ID: 890-1347-10

Date Collected: 09/29/21 12:35

Matrix: Solid

Date Received: 10/01/21 09:47

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 20:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 20:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 20:03	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/04/21 13:37	10/05/21 20:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 20:03	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/04/21 13:37	10/05/21 20:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130				10/04/21 13:37	10/05/21 20:03	1
1,4-Difluorobenzene (Surr)	119		70 - 130				10/04/21 13:37	10/05/21 20:03	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200		mg/Kg			10/05/21 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			10/06/21 11:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 15:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 15:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/05/21 08:25	10/05/21 15:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130				10/05/21 08:25	10/05/21 15:54	1
o-Terphenyl	116		70 - 130				10/05/21 08:25	10/05/21 15:54	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14000		99.8		mg/Kg			10/05/21 11:19	20

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
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)
880-6748-A-11-B MS	Matrix Spike	84	85
880-6748-A-11-C MSD	Matrix Spike Duplicate	118	119
890-1347-1	BH05	108	104
890-1347-2	BH05A	104	119
890-1347-3	BH06	89	114
890-1347-4	BH06A	95	89
890-1347-5	BH07	91	87
890-1347-6	BH07A	95	93
890-1347-7	BH08	88	99
890-1347-8	BH08A	86	98
890-1347-9	BH09	86	75
890-1347-10	BH09A	114	119
LCS 880-8803/1-A	Lab Control Sample	81	85
LCSD 880-8803/2-A	Lab Control Sample Dup	99	82
MB 880-8803/5-A	Method Blank	102	103
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)
890-1347-1	BH05	111	122
890-1347-1 MS	BH05	110	105
890-1347-1 MSD	BH05	109	106
890-1347-2	BH05A	113	121
890-1347-3	BH06	111	121
890-1347-4	BH06A	110	119
890-1347-5	BH07	106	113
890-1347-6	BH07A	106	112
890-1347-7	BH08	109	119
890-1347-8	BH08A	111	121
890-1347-9	BH09	107	115
890-1347-10	BH09A	105	116
LCS 880-8878/2-A	Lab Control Sample	118	117
LCSD 880-8878/3-A	Lab Control Sample Dup	118	118
MB 880-8878/1-A	Method Blank	119	133 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-8803/5-A

Matrix: Solid

Analysis Batch: 8886

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8803

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 12:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 12:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 12:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/04/21 13:37	10/05/21 12:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/04/21 13:37	10/05/21 12:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/04/21 13:37	10/05/21 12:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	10/04/21 13:37	10/05/21 12:05	1
1,4-Difluorobenzene (Surr)	103		70 - 130	10/04/21 13:37	10/05/21 12:05	1

Lab Sample ID: LCS 880-8803/1-A

Matrix: Solid

Analysis Batch: 8886

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8803

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1041		mg/Kg		104	70 - 130
Toluene	0.100	0.08619		mg/Kg		86	70 - 130
Ethylbenzene	0.100	0.08694		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	0.200	0.1559		mg/Kg		78	70 - 130
o-Xylene	0.100	0.07230		mg/Kg		72	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	81		70 - 130
1,4-Difluorobenzene (Surr)	85		70 - 130

Lab Sample ID: LCSD 880-8803/2-A

Matrix: Solid

Analysis Batch: 8886

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8803

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1004		mg/Kg		100	70 - 130	4	35
Toluene	0.100	0.1141		mg/Kg		114	70 - 130	28	35
Ethylbenzene	0.100	0.1145		mg/Kg		114	70 - 130	27	35
m-Xylene & p-Xylene	0.200	0.1957		mg/Kg		98	70 - 130	23	35
o-Xylene	0.100	0.09661		mg/Kg		97	70 - 130	29	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	82		70 - 130

Lab Sample ID: 880-6748-A-11-B MS

Matrix: Solid

Analysis Batch: 8886

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F1	0.101	0.06196	F1	mg/Kg		61	70 - 130
Toluene	<0.00200	U	0.101	0.07795		mg/Kg		77	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

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

Lab Sample ID: 880-6748-A-11-B MS

Matrix: Solid

Analysis Batch: 8886

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U	0.101	0.08263		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.202	0.1344	F1	mg/Kg		67	70 - 130
o-Xylene	<0.00200	U F1	0.101	0.06421	F1	mg/Kg		64	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	84		70 - 130
1,4-Difluorobenzene (Surr)	85		70 - 130

Lab Sample ID: 880-6748-A-11-C MSD

Matrix: Solid

Analysis Batch: 8886

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8803

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.100	0.08433		mg/Kg		84	70 - 130	31	35
Toluene	<0.00200	U	0.100	0.1050		mg/Kg		105	70 - 130	30	35
Ethylbenzene	<0.00200	U	0.100	0.09487		mg/Kg		94	70 - 130	14	35
m-Xylene & p-Xylene	<0.00401	U F1	0.201	0.1781		mg/Kg		89	70 - 130	28	35
o-Xylene	<0.00200	U F1	0.100	0.08616		mg/Kg		86	70 - 130	29	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	119		70 - 130

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

Lab Sample ID: MB 880-8878/1-A

Matrix: Solid

Analysis Batch: 8873

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8878

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		10/05/21 08:25	10/05/21 10:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/05/21 08:25	10/05/21 10:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/05/21 08:25	10/05/21 10:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130	10/05/21 08:25	10/05/21 10:49	1
o-Terphenyl	133	S1+	70 - 130	10/05/21 08:25	10/05/21 10:49	1

Lab Sample ID: LCS 880-8878/2-A

Matrix: Solid

Analysis Batch: 8873

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8878

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1020		mg/Kg		102	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: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

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

Lab Sample ID: LCS 880-8878/2-A

Matrix: Solid

Analysis Batch: 8873

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8878

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	118		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: LCSD 880-8878/3-A

Matrix: Solid

Analysis Batch: 8873

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8878

	Spike	LCSD	LCSD						%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit		
Gasoline Range Organics (GRO)-C6-C10	1000	963.7		mg/Kg		96	70 - 130	6	20		
Diesel Range Organics (Over C10-C28)	1000	1002		mg/Kg		100	70 - 130	0	20		

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	118		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: 890-1347-1 MS

Matrix: Solid

Analysis Batch: 8873

Client Sample ID: BH05

Prep Type: Total/NA

Prep Batch: 8878

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	995	892.0		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	995	892.6		mg/Kg		90	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 890-1347-1 MSD

Matrix: Solid

Analysis Batch: 8873

Client Sample ID: BH05

Prep Type: Total/NA

Prep Batch: 8878

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	979.5		mg/Kg		98	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	903.5		mg/Kg		91	70 - 130	1	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	106		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-8731/1-A

Matrix: Solid

Analysis Batch: 8851

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/05/21 08:11	1

Lab Sample ID: LCS 880-8731/2-A

Matrix: Solid

Analysis Batch: 8851

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	266.7		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-8731/3-A

Matrix: Solid

Analysis Batch: 8851

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	266.6		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-1347-1 MS

Matrix: Solid

Analysis Batch: 8851

Client Sample ID: BH05

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	244	F1	250	529.5	F1	mg/Kg		114	90 - 110

Lab Sample ID: 890-1347-1 MSD

Matrix: Solid

Analysis Batch: 8851

Client Sample ID: BH05

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	244	F1	250	515.3		mg/Kg		109	90 - 110	3	20

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

GC VOA

Prep Batch: 8803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1347-1	BH05	Total/NA	Solid	5035	
890-1347-2	BH05A	Total/NA	Solid	5035	
890-1347-3	BH06	Total/NA	Solid	5035	
890-1347-4	BH06A	Total/NA	Solid	5035	
890-1347-5	BH07	Total/NA	Solid	5035	
890-1347-6	BH07A	Total/NA	Solid	5035	
890-1347-7	BH08	Total/NA	Solid	5035	
890-1347-8	BH08A	Total/NA	Solid	5035	
890-1347-9	BH09	Total/NA	Solid	5035	
890-1347-10	BH09A	Total/NA	Solid	5035	
MB 880-8803/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-8803/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8803/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-6748-A-11-B MS	Matrix Spike	Total/NA	Solid	5035	
880-6748-A-11-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 8886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1347-1	BH05	Total/NA	Solid	8021B	8803
890-1347-2	BH05A	Total/NA	Solid	8021B	8803
890-1347-3	BH06	Total/NA	Solid	8021B	8803
890-1347-4	BH06A	Total/NA	Solid	8021B	8803
890-1347-5	BH07	Total/NA	Solid	8021B	8803
890-1347-6	BH07A	Total/NA	Solid	8021B	8803
890-1347-7	BH08	Total/NA	Solid	8021B	8803
890-1347-8	BH08A	Total/NA	Solid	8021B	8803
890-1347-9	BH09	Total/NA	Solid	8021B	8803
890-1347-10	BH09A	Total/NA	Solid	8021B	8803
MB 880-8803/5-A	Method Blank	Total/NA	Solid	8021B	8803
LCS 880-8803/1-A	Lab Control Sample	Total/NA	Solid	8021B	8803
LCSD 880-8803/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	8803
880-6748-A-11-B MS	Matrix Spike	Total/NA	Solid	8021B	8803
880-6748-A-11-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	8803

Analysis Batch: 8900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1347-1	BH05	Total/NA	Solid	Total BTEX	
890-1347-2	BH05A	Total/NA	Solid	Total BTEX	
890-1347-3	BH06	Total/NA	Solid	Total BTEX	
890-1347-4	BH06A	Total/NA	Solid	Total BTEX	
890-1347-5	BH07	Total/NA	Solid	Total BTEX	
890-1347-6	BH07A	Total/NA	Solid	Total BTEX	
890-1347-7	BH08	Total/NA	Solid	Total BTEX	
890-1347-8	BH08A	Total/NA	Solid	Total BTEX	
890-1347-9	BH09	Total/NA	Solid	Total BTEX	
890-1347-10	BH09A	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

GC Semi VOA

Analysis Batch: 8873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1347-1	BH05	Total/NA	Solid	8015B NM	8878
890-1347-2	BH05A	Total/NA	Solid	8015B NM	8878
890-1347-3	BH06	Total/NA	Solid	8015B NM	8878
890-1347-4	BH06A	Total/NA	Solid	8015B NM	8878
890-1347-5	BH07	Total/NA	Solid	8015B NM	8878
890-1347-6	BH07A	Total/NA	Solid	8015B NM	8878
890-1347-7	BH08	Total/NA	Solid	8015B NM	8878
890-1347-8	BH08A	Total/NA	Solid	8015B NM	8878
890-1347-9	BH09	Total/NA	Solid	8015B NM	8878
890-1347-10	BH09A	Total/NA	Solid	8015B NM	8878
MB 880-8878/1-A	Method Blank	Total/NA	Solid	8015B NM	8878
LCS 880-8878/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8878
LCSD 880-8878/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8878
890-1347-1 MS	BH05	Total/NA	Solid	8015B NM	8878
890-1347-1 MSD	BH05	Total/NA	Solid	8015B NM	8878

Prep Batch: 8878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1347-1	BH05	Total/NA	Solid	8015NM Prep	
890-1347-2	BH05A	Total/NA	Solid	8015NM Prep	
890-1347-3	BH06	Total/NA	Solid	8015NM Prep	
890-1347-4	BH06A	Total/NA	Solid	8015NM Prep	
890-1347-5	BH07	Total/NA	Solid	8015NM Prep	
890-1347-6	BH07A	Total/NA	Solid	8015NM Prep	
890-1347-7	BH08	Total/NA	Solid	8015NM Prep	
890-1347-8	BH08A	Total/NA	Solid	8015NM Prep	
890-1347-9	BH09	Total/NA	Solid	8015NM Prep	
890-1347-10	BH09A	Total/NA	Solid	8015NM Prep	
MB 880-8878/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8878/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8878/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1347-1 MS	BH05	Total/NA	Solid	8015NM Prep	
890-1347-1 MSD	BH05	Total/NA	Solid	8015NM Prep	

Analysis Batch: 8973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1347-1	BH05	Total/NA	Solid	8015 NM	
890-1347-2	BH05A	Total/NA	Solid	8015 NM	
890-1347-3	BH06	Total/NA	Solid	8015 NM	
890-1347-4	BH06A	Total/NA	Solid	8015 NM	
890-1347-5	BH07	Total/NA	Solid	8015 NM	
890-1347-6	BH07A	Total/NA	Solid	8015 NM	
890-1347-7	BH08	Total/NA	Solid	8015 NM	
890-1347-8	BH08A	Total/NA	Solid	8015 NM	
890-1347-9	BH09	Total/NA	Solid	8015 NM	
890-1347-10	BH09A	Total/NA	Solid	8015 NM	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

HPLC/IC

Leach Batch: 8731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1347-1	BH05	Soluble	Solid	DI Leach	
890-1347-2	BH05A	Soluble	Solid	DI Leach	
890-1347-3	BH06	Soluble	Solid	DI Leach	
890-1347-4	BH06A	Soluble	Solid	DI Leach	
890-1347-5	BH07	Soluble	Solid	DI Leach	
890-1347-6	BH07A	Soluble	Solid	DI Leach	
890-1347-7	BH08	Soluble	Solid	DI Leach	
890-1347-8	BH08A	Soluble	Solid	DI Leach	
890-1347-9	BH09	Soluble	Solid	DI Leach	
890-1347-10	BH09A	Soluble	Solid	DI Leach	
MB 880-8731/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8731/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8731/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1347-1 MS	BH05	Soluble	Solid	DI Leach	
890-1347-1 MSD	BH05	Soluble	Solid	DI Leach	

Analysis Batch: 8851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1347-1	BH05	Soluble	Solid	300.0	8731
890-1347-2	BH05A	Soluble	Solid	300.0	8731
890-1347-3	BH06	Soluble	Solid	300.0	8731
890-1347-4	BH06A	Soluble	Solid	300.0	8731
890-1347-5	BH07	Soluble	Solid	300.0	8731
890-1347-6	BH07A	Soluble	Solid	300.0	8731
890-1347-7	BH08	Soluble	Solid	300.0	8731
890-1347-8	BH08A	Soluble	Solid	300.0	8731
890-1347-9	BH09	Soluble	Solid	300.0	8731
890-1347-10	BH09A	Soluble	Solid	300.0	8731
MB 880-8731/1-A	Method Blank	Soluble	Solid	300.0	8731
LCS 880-8731/2-A	Lab Control Sample	Soluble	Solid	300.0	8731
LCSD 880-8731/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8731
890-1347-1 MS	BH05	Soluble	Solid	300.0	8731
890-1347-1 MSD	BH05	Soluble	Solid	300.0	8731

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH05

Lab Sample ID: 890-1347-1

Date Collected: 09/29/21 09:30

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 16:57	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 11:54	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		1			8851	10/05/21 09:57	CH	XEN MID

Client Sample ID: BH05A

Lab Sample ID: 890-1347-2

Date Collected: 09/29/21 09:45

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 17:18	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 12:59	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		1			8851	10/05/21 10:16	CH	XEN MID

Client Sample ID: BH06

Lab Sample ID: 890-1347-3

Date Collected: 09/29/21 10:05

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 17:38	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 13:21	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		50			8851	10/05/21 10:23	CH	XEN MID

Client Sample ID: BH06A

Lab Sample ID: 890-1347-4

Date Collected: 09/29/21 10:10

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 17:59	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH06A

Lab Sample ID: 890-1347-4

Date Collected: 09/29/21 10:10

Matrix: Solid

Date Received: 10/01/21 09:47

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			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 13:43	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		1			8851	10/05/21 10:41	CH	XEN MID

Client Sample ID: BH07

Lab Sample ID: 890-1347-5

Date Collected: 09/29/21 10:15

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 18:20	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 14:05	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		10			8851	10/05/21 10:48	CH	XEN MID

Client Sample ID: BH07A

Lab Sample ID: 890-1347-6

Date Collected: 09/29/21 10:30

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 18:40	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 14:27	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		1			8851	10/05/21 10:54	CH	XEN MID

Client Sample ID: BH08

Lab Sample ID: 890-1347-7

Date Collected: 09/29/21 11:30

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 19:01	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 14:48	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Client Sample ID: BH08

Lab Sample ID: 890-1347-7

Date Collected: 09/29/21 11:30

Matrix: Solid

Date Received: 10/01/21 09:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		20			8851	10/05/21 11:00	CH	XEN MID

Client Sample ID: BH08A

Lab Sample ID: 890-1347-8

Date Collected: 09/29/21 11:45

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 19:22	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 15:10	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		5			8851	10/05/21 11:06	CH	XEN MID

Client Sample ID: BH09

Lab Sample ID: 890-1347-9

Date Collected: 09/29/21 12:30

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 19:43	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 15:32	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		20			8851	10/05/21 11:13	CH	XEN MID

Client Sample ID: BH09A

Lab Sample ID: 890-1347-10

Date Collected: 09/29/21 12:35

Matrix: Solid

Date Received: 10/01/21 09:47

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	8803	10/04/21 13:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8886	10/05/21 20:03	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8900	10/05/21 10:54	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8973	10/06/21 11:13	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8878	10/05/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8873	10/05/21 15:54	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	8731	10/01/21 12:05	CA	XEN MID
Soluble	Analysis	300.0		20			8851	10/05/21 11:19	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

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

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Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 28-12h

Job ID: 890-1347-1
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: RDX Federal 28-12h

Job ID: 890-1347-1
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: RDX Federal 28-12h

Job ID: 890-1347-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1347-1	BH05	Solid	09/29/21 09:30	10/01/21 09:47	1
890-1347-2	BH05A	Solid	09/29/21 09:45	10/01/21 09:47	4
890-1347-3	BH06	Solid	09/29/21 10:05	10/01/21 09:47	3
890-1347-4	BH06A	Solid	09/29/21 10:10	10/01/21 09:47	4
890-1347-5	BH07	Solid	09/29/21 10:15	10/01/21 09:47	1
890-1347-6	BH07A	Solid	09/29/21 10:30	10/01/21 09:47	4
890-1347-7	BH08	Solid	09/29/21 11:30	10/01/21 09:47	2
890-1347-8	BH08A	Solid	09/29/21 11:45	10/01/21 09:47	4
890-1347-9	BH09	Solid	09/29/21 12:30	10/01/21 09:47	3
890-1347-10	BH09A	Solid	09/29/21 12:35	10/01/21 09:47	4



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: _____

www.xenco.com Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	WSP USA	Company Name:	WSP Energy
Address:	3300 W A Street	Address:	5315 Buena Vista Dr.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88210
Phone:	(281) 702-2329	Email:	anna.byers@wsp.com

Project Name:	RDX Federal 28-12 H	Turn Around	Due Date:	9/29/21
Project Number:	31403360-007	Due Date:	TAT starts the day received by the lab, if received by 4:30pm	
Project Location:	Eddy County	Wet Ice:	Yes	No
Sampler's Name:	Anna Byers	Thermometer ID:	TM-007	
PO #:	NAPP2124531124	Correction Factor:	-0.2	
SAMPLE RECEIPT	Temp Blank:	Yes	No	
Samples Received Intact:	Yes	No		
Cooler Custody Seals:	Yes	No		
Sample Custody Seals:	Yes	No		
Total Containers:	Corrected Temperature:	2.8		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code	ANALYSIS REQUEST	Preservative Codes
BH05	S	9/29/21	0930	1'	Grab	1	TPH (EPA 8215 Mod)			None: NO DI Water: H ₂ O
BH05A				1'		1	BTEX (EPA 8215)			Cool: Cool MeOH: Me
BH06				3'		1				HCL: HC HNO ₃ : HN
BH06A				4'		1				H ₂ SO ₄ : H ₂ NaOH: Na
BH07				1'		1				H ₃ PO ₄ : HP NaHSO ₄ : NABIS
BH07A				4'		1				Na ₂ S ₂ O ₃ : NaSO ₃
BH08				2'		1				Zn Acetate+NaOH: Zn
BH08A				4'		1				NaOH+Ascorbic Acid: SACP
BH09				3'		1				
BH09A				4'		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 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
Anna Byers	Joe Culp	10/21/2021

Revised Date: 08/25/2020 Rev: 2020.2

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Eurofins Xenco Carlehad

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

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)										Sampler		Lab PM		Carrier/Tracking No(s)		COC No	
Client Contact: Shipping/Receiving										Phone		Kramer, Jessica		State of Origin		890-440 1	
Company: Eurofins Xenco										E-Mail		Jessica.kramer@eurofinsnet.com		New Mexico		Page 1 of 2	
Address: 1211 W Florida Ave										Due Date Requested		10/7/2021		Accreditations Required (See note): NELAP - Texas		Job #: 890-1347-1	
City: Midland										TAT Requested (days):		10/7/2021		Analysis Requested		Preservation Codes	
State, Zip: TX 79701										PO #		432-704-5440(Tel)		A. HCL		M. Hexane	
Phone: 432-704-5440(Tel)										WO #		Project #		B. NaOH		N. None	
Email: 432-704-5440(Tel)										Project #		88000203		C. Zn Acetate		O. AsNaO2	
Project Name: RDX Federal 28-12h										SSOW#		Field Filtered Sample (Yes or No)		D. Nitric Acid		P. Na2O4S	
Site										Sample Date		Perform MS/MSD (Yes or No)		E. NaHSO4		Q. Na2SO3	
Sample Identification - Client ID (Lab ID)										Sample Time		300_ORGFM_28D/DI_LEACH Chloride		F. MeOH		R. Na2SO3	
Sample Type										Sample G=grab		8015MOD_NM/8015NM_S_Prep Full TPH		G. Amchlor		S. H2SO4	
Matrix (Water, Soil, Oil, etc.)										Preservation Code		8021B/6035FP_Calc BTEX		H. Ascorbic Acid		T. TSP Dodecylhydrate	
BH05 (890-1347-1)										09 30		8015MOD_Calc		I. Ice		U. Acetone	
BH05A (890-1347-2)										09 45		Total_BTEX_GCV		J. DI Water		V. MCAA	
BH06 (890-1347-3)										10 05				K. EDTA		W. pH 4-5	
BH06A (890-1347-4)										10 10				L. EDA		Z. other (Specify)	
BH07 (890-1347-5)										10 15							
BH07A (890-1347-6)										10 30							
BH08 (890-1347-7)										11 30							
BH08A (890-1347-8)										11 45							
BH09 (890-1347-9)										12 30							
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/test/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other institutions 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										Date		Time					
Relinquished by										Date/Time		Company					
Relinquished by										Date/Time		Company					
Relinquished by										Date/Time		Company					
Custody Seals Intact.										Custody Seal No							
A Yes A No																	

Eurofins Xenco, Carlsbad

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

Chain of Custody Record

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1347-1

SDG Number: Eddy County

Login Number: 1347

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: 890-1347-1

SDG Number: Eddy County

Login Number: 1347

List Source: Eurofins Xenco, Midland

List Number: 2

List Creation: 10/04/21 09:23 AM

Creator: Copeland, Tatiana

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1 / 2.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 63569

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 63569
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	Closure report due 03/21/2022	12/21/2021