

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	NRM2019548894
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC.	OGRID: 246289
Contact Name: Lynda Laumbach	Contact Telephone: (575) 725-1647
Contact email: Lynda.Laumbach@wpxenergy.com	Incident # (assigned by OCD)
Contact mailing address: 5315 Buena Vista Drive, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.041235 Longitude -103.9018005
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: RDX 17 Federal Com #006H	Site Type: Production Facility
Date Release Discovered: 07/05/2020	API# (if applicable): 30-015-39308

Unit Letter	Section	Township	Range	County
J	17	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)

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☒ Produced Water	Volume Released (bbls): 35	Volume Recovered (bbls): 5
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:

At 0830 hours PW polyline connection failed causing an estimated 35bbl of PW to be released along recently reclaimed lease road for RDX 17-13. 5bbl of PW was recovered.

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

State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release was over 25bbl of fluid.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Email notification was sent to Mike Bratcher, Robert Hamlet, Victoria Venegas, and Jim Griswold on 07/05/2020 at 1640 hours.	

Initial Response

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

☒ The source of the release has been stopped.	
☒ The impacted area has been secured to protect human health and the environment.	
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <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>Lynda Laumbach</u>	Title: <u>Environmental Specialist</u>
Signature: <u></u>	Date: <u>07/06/2020</u>
email: <u>Lynda.Laumbach@wpenergy.com</u>	Telephone: <u>(575)725-1647</u>
<u>OCD Only</u>	
Received by: <u>Ramona Marcus</u>	Date: <u>7/13/2020</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?	<u>>100</u> (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

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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: Jim Raley Title: Environmental Professional
Signature:  Date: 5/2/2022
email: jim.raley@dvn.com Telephone: 575-686-7597

OCD Only

Received by: Jocelyn Harimon Date: 10/17/2022

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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 Professional
Signature:  Date: 5/2/2022
email: jim.raley@dvn.com Telephone: 575-686-7597

OCD Only

Received by: Jocelyn Harimon Date: 10/17/2022

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

Signature:  Date: 01/26/2024



REMEDIATION WORK PLAN ADDENDUM

Site Location:

RDX 17 Federal Com #006H

Eddy County, New Mexico

Incident Number:

NRM2019548894

April 28, 2022

Ensolum Project No. 03A1987010

Prepared for:

WPX Energy Permian, LLC

5315 Buena Vista Dr.

Carlsbad, NM 88220

Attention: Jim Raley

Prepared by:

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

Joseph S. Hernandez
Senior Geologist

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

Ashley Ager, M.S., PG
Program Director, Geologist

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Remediation Work Plan Addendum
April 28, 2022



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Appendix D:	Tables
Appendix E:	Laboratory Analytical Reports & Chain-of-Custody Documentation
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1.0 INTRODUCTION

Ensolum, LLC (Ensolum) has prepared this Remediation Work Plan Addendum (RWPA) to document corrective actions completed by WPX Permian Energy, LLC (WPX) at the RDX 17 Federal Com #006H (hereinafter referred to as the "Site") in Unit J, Section 17, Township 26 South, Range 30 East, in Eddy County, New Mexico (**Figure 1 in Appendix A**). The purpose of the RWPA is to supplement corrective actions that have been executed in accordance with a Remediation Work Plan (RWP) authored by WPX, which was approved by the New Mexico Oil and Conservation Division (NMOCD) on July 21, 2021. Based on current field observations, field screening activities and review of the laboratory analytical results from excavation and delineation soil sampling activities at the Site, WPX respectfully submits this RWPA which summarizes activities performed to date and proposes additional remediation and soil sampling activities to further address soil impacts at the Site.

1.1 Site Description and Release Background

The Site is located within Eddy County, New Mexico (32.041235° N, 103.9018005° W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) Federal Land (**Figure 1 in Appendix A**).

On July 5, 2020, a produced water polyline connection failed and resulted in approximately 35 barrels (bbls) of produced water to be released along a recently reclaimed lease road. Approximately 5 bbls of produced water were recovered via vacuum truck. WPX reported the release to the NMOCD via email on July 5, 2020 and with a subsequent Corrective Action Form C-141 (Form C-141) July 6, 2020. The release was assigned Incident Number NRM2019548894.

1.2 Site Characterization

A detailed Site Characterization can be referenced in the approved RWP report, submitted by WPX. Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on **Figure 1 in Appendix A**.

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total Petroleum Hydrocarbon (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 was applied to the top 4 feet in the pasture area that was impacted by the release.

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1.3 Project Objective

The primary objectives of Ensolum's scope of services were to document initial remediation activities performed at the Site were completed in accordance with the approved RWP and to document those concentrations of constituents of concern (COCs) present in soil remaining on-Site.

2.0 REMEDIATION WORK PLAN EXECUTION

A third-party contractor, WSP USA, Inc. (WSP), conducted soil sampling activities at the Site to verify the presence or absence of soil impacts associated with the subject release and oversaw initial excavation efforts to remove impacted soil and 20-mil impermeable liner installation. To date, approximately 5,820 cubic yards of impacted soil have been removed from the Site.

2.1 Excavation Activities

Between December 9, 2021 and February 9, 2022, excavation activities were conducted by WPX to remove identified impacted soil from the Site utilizing heavy equipment. Excavation activities were directed by field screening soil for volatile organic compounds (VOCs) utilizing a calibrated photo-ionization detector (PID) and chloride using Hach® chloride QuanTab® test strips.

Following removal of impacted soil, WSP collected confirmation sidewall soil samples (samples designated as SW) at a sampling frequency of 200 square feet from excavation to confirm if impacted soil above reclamation and/or Closure Criteria was successfully removed. The 5-point composite soil samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. SW01 through SW23 were collected from the sidewalls of the excavation at depths ranging from ground surface to approximately 4 feet bgs. Due to a liner installation set to cover the entirety of the excavation footprint, composite floor soil samples were not collected from the excavation. The location of the confirmation sidewall soil samples and excavation extent are shown on **Figure 2 in Appendix A**.

The soil samples were placed directly into a 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 procedures, to Eurofins LLC (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH following EPA Method 8015M/D; and chloride following EPA Method 300.0. Photographic documentation during excavation activities is included in **Appendix B**.

2.2 Delineation Activities

Between January 10, 2022 and January 17, 2022, delineation activities were conducted by WSP to complete vertical delineation within the proposed liner installation area and to investigate the extent of impacted soil southeast of the excavation area, outside of the original scope of work defined in the approved RWP. Delineation samples were collected in potholes advanced with heavy equipment (samples designated PH). Delineation activities were directed by field screening soil for VOCs utilizing a calibrated PID and chloride using Hach® chloride QuanTab® test strips. A minimum of two soil samples were collected from each delineation soil sample location

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(PH01 through PH12): including the sample with the highest observed field screening and the greatest depth. The location of the delineation samples and area of concern are shown in **Figure 3 in Appendix A**. Field screening results and observations for each delineation soil sample were recorded on lithologic soil sampling logs (**Appendix C**). The soil samples were collected, handled and analyzed as previously described. Photographic documentation during delineation activities is included in **Appendix B**.

Per the approved RWP, a 20-mil impermeable liner was installed in the excavation associated with the reclaimed lease road to mitigate future migration of residual chloride impacts into the subsurface on February 14, 2022. The original RWP documented soil impacts in this area up to 10 feet bgs. The liner installation area is depicted on **Figures 2 and 3 in Appendix A**. Photographic documentation of the liner installation is included in **Appendix B**. The excavation was subsequently backfilled, and the Site was restored to “as close to its original state” as possible.

3.0 SOIL SAMPLING RESULTS

Laboratory analytical results for SW01 through SW16 were below the reclamation standard and/or Closure Criteria; SW17 through SW23 indicated COCs exceeded the reclamation standard requirement, adjacent to the area of concern.

Laboratory analytical results for PH01 through PH03 define the vertical extent of impact within the liner excavation area was below the Closure Criteria; PH09 through PH12 indicated COCs exceed the reclamation standard, however, based on the current extent of soil characterization at the Site, it appears that vertical impacts do not exceed 4 feet bgs within the area of concern. Results for PH04 through PH08 were below the reclamation standard and/or Closure Criteria and estimates the horizontal boundary of impact related to the area of concern.

Laboratory analytical results are summarized in **Table 1** included in **Appendix D**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix E**. **Appendix F** provides correspondence email notification receipts associated with the release.

4.0 REMEDIATION WORK PLAN ADDENDUM

Based on the results documented in this report, the following findings and conclusions regarding the release are presented:

- To date, approximately 5,820 cubic yards of impacted soil has been removed and disposed of at R360 Environmental Solutions in Orla, Texas, addressing the entire proposed excavation area in the original RWP;
- Based on laboratory analytical results for delineation samples PH01 through PH08 and final confirmation sidewall soil samples SW01 through SW16, the excavation area has been vertically and laterally delineated;
- A 20-mil impermeable liner was installed in the excavation associated with the reclaimed lease road to mitigate future migration of residual chloride impacts into the subsurface. The original RWP documented soil impacts in this area up to 10 feet bgs;

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- Based on laboratory analytical results for PH04 through PH12, an additional **5,500 cubic yards** of impacted soil is anticipated to be remediated and/or removed from the Site for disposal in accordance with state and federal regulations for the extent. The area of concern is displayed on **Figure 3 in Appendix A**;
- Soil impacts within the area of concern do not exceed 4 feet bgs.

Based on the conclusions presented above, the following remediation is proposed:

- Additional impacted soil associated with SW17 through SW23, and area of concern will be excavated pursuant to NMAC 19.15.29 to ensure the lateral extent of the impacted soil not meeting the reclamation standard requirement has been identified and removed. Excavated soil will then be transferred to: (a) a New Mexico approved landfill facility for disposal and the excavation will be backfilled with non-waste containing soil, as defined by "Procedures for Implementation of the Spill Rule" (September 6, 2019) or (b) an on-site ex-situ treatment cell for chloride extraction. Following review of the additional soil characterization at the Site, WPX will re-evaluate the proposed remedial options and submit a revised RWP detailing the option (b) treatment and sampling plan for NMOCD review, if selected.
- Horizontal delineation will be achieved through 5-point composite sidewall soil samples following the removal of residual impacts;
- Access for remediation or disturbance that occurs offsite requires BLM approval with additional coverage. WPX will prepare and submit documentation for proposed additional work areas before initiating corrective actions;
- There are areas off pad (ex. reclaimed pad and access road) that may require third-party operator oversight and additional safety measures to be in place before or during remediation activities near their respective utilities. 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.
- Subsequent to the completion of remediation and receipt of soil confirmation sample results documenting that impacted soil had been removed, the additional excavation area will be backfilled with clean and/or treated soil and restored to "as close to its original state" as soon as possible.

4.1 Proposed Sampling

WPX is requesting a variance to the 200 square foot confirmation sampling requirement for the area to be excavated, which would require an estimated additional 151 floor soil samples within the area of concern, excluding sidewall samples. Due to the large extent of the impacted area (30,200 square feet), Ensolum proposes increasing the confirmation sampling size to collecting a 5-point composite sample to represent each 1,000 square foot area for the floors and sidewalls of the excavation.

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4.2 Proposed Schedule

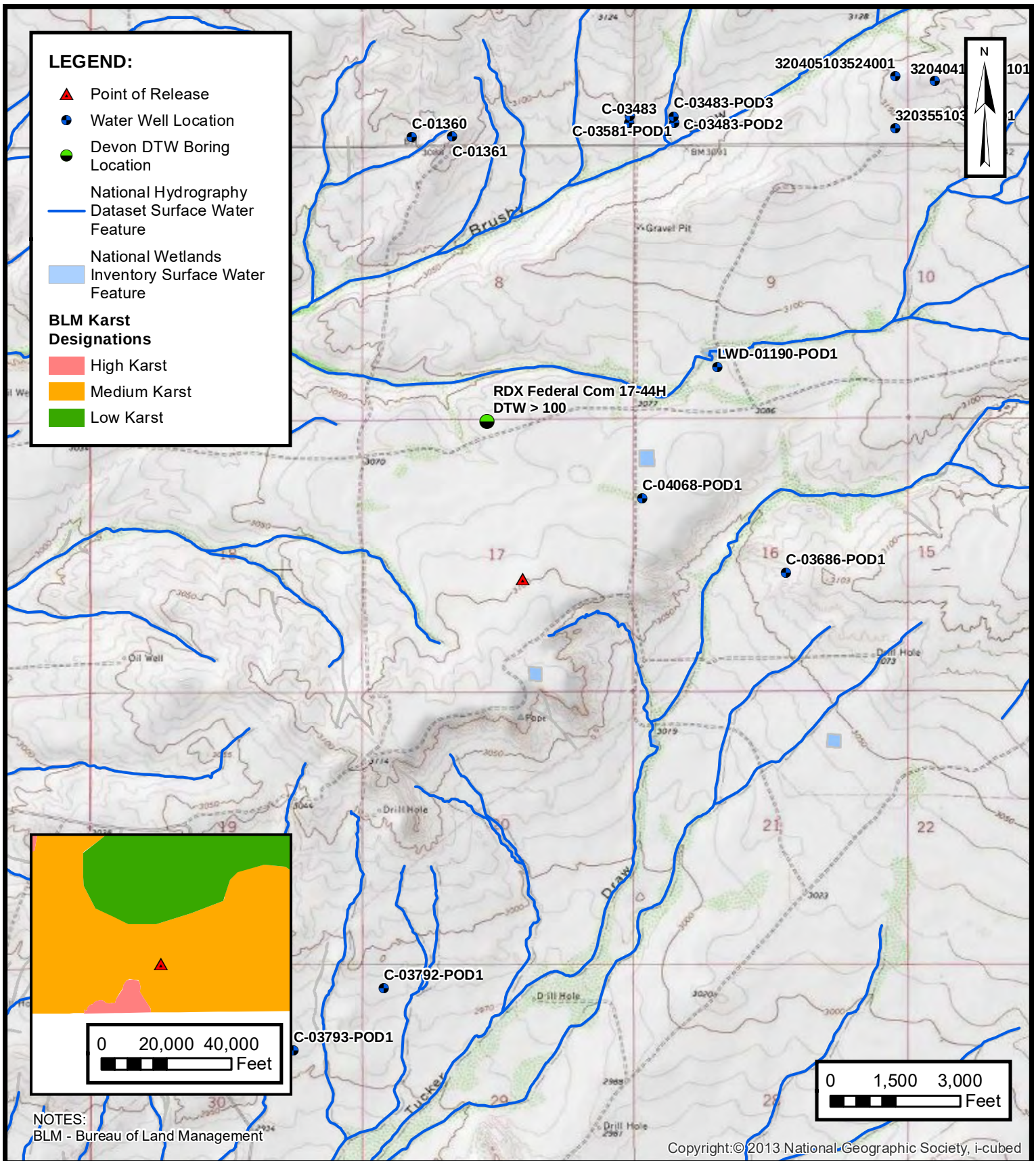
WPX believes the scope of work described above will meet requirements set forth in NMAC 19.15.29.13 and be protective of human health, the environment, and groundwater. As such, WPX respectfully requests approval of this RWPA from NMOCD.

Based on the extent of corrective measures, planning and potential third-party operator oversight at the Site, WPX anticipates beginning remediation within **180 days** of the approval of the RWPA.



APPENDIX A

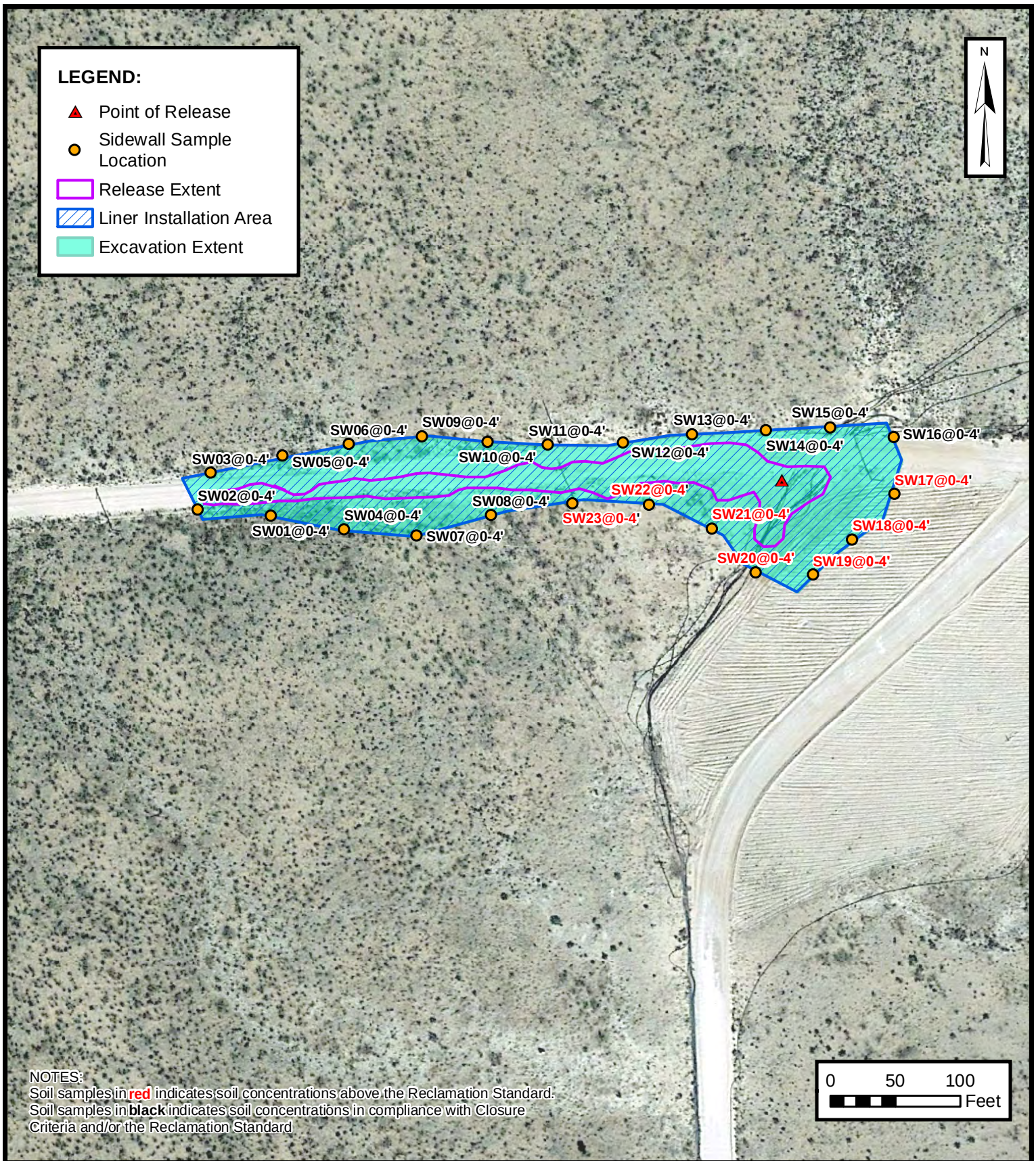
Figures



SITE MAP

WPX ENERGY PERMIAN, LLC.
RDX 17 FEDERAL COM #006H
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Eddy County, New Mexico

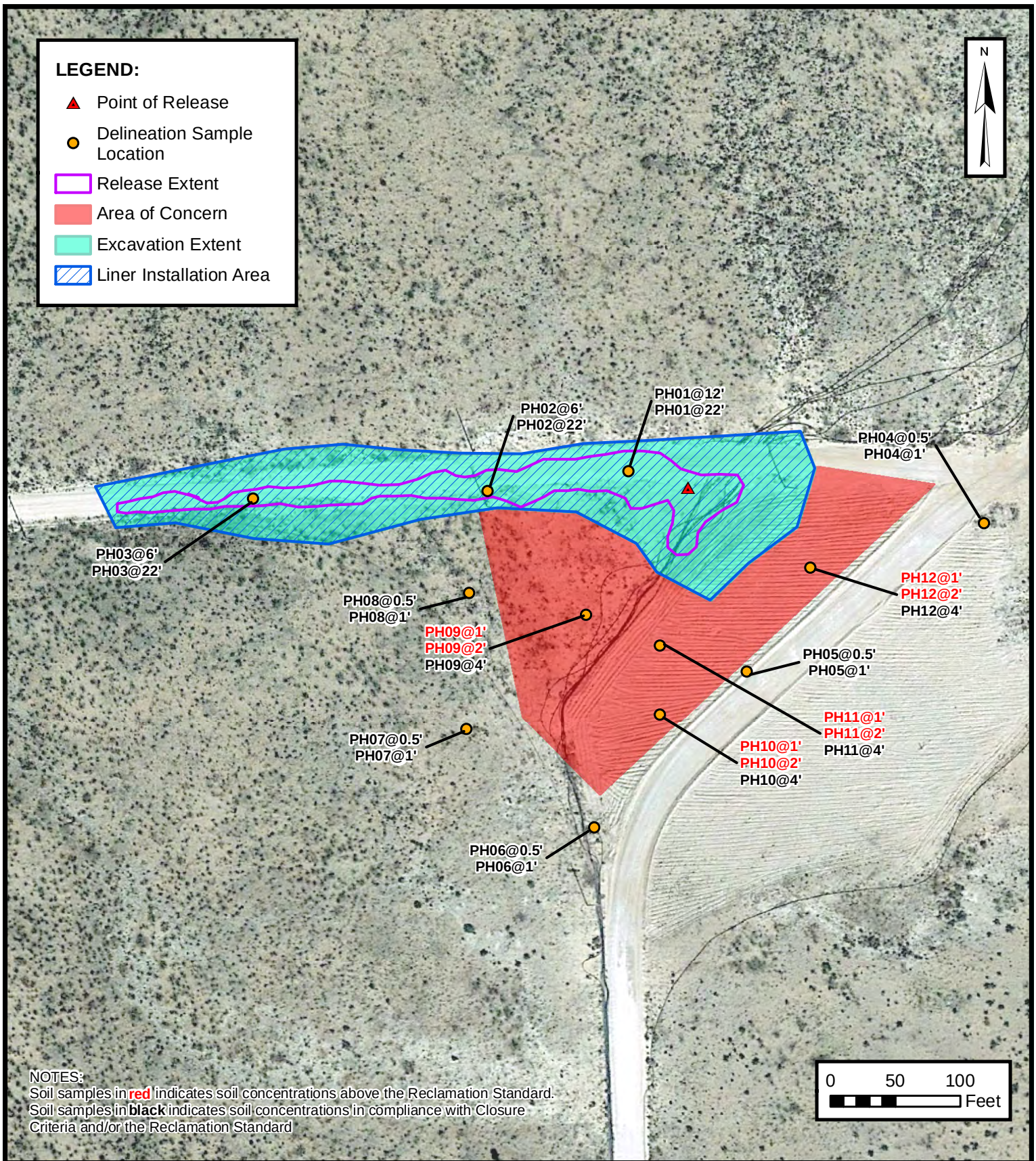
FIGURE
1



EXCAVATION SOIL SAMPLE LOCATIONS

WPX ENERGY PERMIAN, LLC.
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 Incident Number: NRM2019548894
 Unit J, Sec 17, T26S, R30E
 Eddy County, New Mexico

FIGURE
2



DELINEATION SOIL SAMPLE LOCATIONS

WPX ENERGY PERMIAN, LLC.
 RDX 17 FEDERAL COM #006H
 Incident Number: NRM2019548894
 Unit J, Sec 17, T26S, R30E
 Eddy County, New Mexico

FIGURE
3



APPENDIX B

Photographic Documentation

**Photographic Log**

WPX Energy Permian, LLC.

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Ensolum Job Number: 03A1987010

**Photograph 1***Date: December 2021 through February 2022**Description: Eastern excavation activities prior to relocating surface flowlines***Photograph 2***Date: December 2021 through February 2022**Description: Western excavation activities***Photograph 3***Date: December 2021 through February 2022**Description: Excavation activities of previously reclaimed lease road***Photograph 4***Date: December 2021 through February 2022**Description: Excavation activities of previously reclaimed lease road*

**Photographic Log**

WPX Energy Permian, LLC.

RDX 17 Federal Com #006H

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Ensolum Job Number: 03A1987010

**Photograph 5***Date: December 2021 through February 2022**Description: Eastern excavation extent post relocation of surface flowlines***Photograph 6***Date: December 2021 through February 2022**Description: View of eastern excavation extent facing west***Photograph 7***Date: December 2021 through February 2022**Description: Excavation extent of reclaimed lease road***Photograph 8***Date: December 2021 through February 2022**Description: View of western excavation extent facing east*



Photographic Log

WPX Energy Permian, LLC.

RDX 17 Federal Com #006H

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Ensolum Job Number: 03A1987010



Photograph 9

Date: February 14, 2022

Description: Liner installation



Photograph 10

Date: February 14, 2022

Description: Liner installation



Photograph 11

Date: February 14, 2022

Description: Liner installation completion



Photograph 12

Date: February 14, 2022

Description: Liner installation completion



APPENDIX C

Lithologic Soil Sampling Logs

							Sample Name: PH01		Date: 1/17/2022	
							Site Name: RDX 17 Federal Com #006H			
							Incident Number: nRM2019548894			
							Job Number: 03A1987010			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: Gilbert Moreno		Method: Track Hoe	
Coordinates: 32.041009,-103.901768							Hole Diameter: N/A		Total Depth: 22 feet	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
EXCAVATED						0		EXCAVATED		
-	-	-	-	-	4	5	CCHE	0-4', previously excavated 4-16', CALICHE, dry, tan, well graded, fine-medium, grain, well consolidated, no stain, no odor 16-22', SILTY SAND, dry, tan-brown, fine-medium grain, well consolidated, some dark grey cobbles, no stain, no odor		
Dry	4,313	0.1	No	-	6					
Dry	8,712	0.1	No	-	8					
Dry	6,384	0.1	No	-	10					
Dry	10,224	0.1	No	PH01	12					
Dry	5,908	0.3	No	-	14	15				
Dry	9,432	0.2	No	-	16					
Dry	8,712	0.6	No	-	18	20	SM			
Dry	5,056	3.0	No	-	20					
Dry	5,464	3.5	No	PH01	22					

							Sample Name: PH02		Date: 1/17/2022	
							Site Name: RDX 17 Federal Com #006H			
							Incident Number: nRM2019548894			
							Job Number: 03A1987010			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: Gilbert Moreno		Method: Track Hoe	
Coordinates: 32.041009,-103.901768							Hole Diameter: N/A		Total Depth: 22 feet	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
EXCAVATED						0		EXCAVATED		
-	-	-	-	-	4	5	CCHE	0-4', previously excavated 4-16', CALICHE, dry, tan, well graded, fine-medium, grain, well consolidated, no stain, no odor 16-22', SILTY SAND, dry, tan-brown, fine-medium grain, well consolidated, some dark grey cobbles, no stain, no odor		
Dry	5,056	0.6	No	PH02	6					
Dry	3,976	0.7	No	-	8					
Dry	4,312	1.0	No	-	10					
Dry	3,368	4.0	No	-	12					
Dry	3,976	1.1	No	-	14	15				
Dry	5,056	0.8	No	-	16					
Dry	3,368	1.0	No	-	18					
Dry	3,976	2.5	No	-	20					
Dry	3,092	2.0	No	PH02	22	20	SM			
								Total Depth		

 ENSOLUM							Sample Name: PH03		Date: 1/17/2022	
							Site Name: RDX 17 Federal Com #006H			
							Incident Number: nRM2019548894			
							Job Number: 03A1987010			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: Gilbert Moreno		Method: Track Hoe	
Coordinates: 32.041009,-103.901768							Hole Diameter:N/A		Total Depth:22 feet	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
EXCAVATED						0		EXCAVATED		
-	-	-	-	-	4		CCHE	0-4', previously excavated		
						5				
Dry	5,908	0.1	No	PH03	6			4-16', CALICHE, dry, tan, well graded, fine-medium, grain, well consolidated, no stain, no odor		
Dry	1,942	0.2	No	-	8			16-22', SILTY SAND, dry, tan-brown, fine-medium grain, well consolidated, some dark grey cobbles, no stain, no odor		
Dry	1,744	0.7	No	-	10	10				
Dry	1,088	0.5	No	-	12					
Dry	1,028	0.5	No	-	14					
						15				
Dry	1,028	0.5	No	-	16		SM			
Dry	196	1.0	No	-	18					
Dry	548	1.0	No	-	20	20				
Dry	500	0.6	No	PH03	22					
Total Depth										

		Sample Name: PH04		Date: 1/10/2022				
		Site Name: RDX 17 Federal Com #006H						
		Incident Number: nRM2019548894						
		Job Number: 03A1987010						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.041009, -103.901768			Logged By: Anna Byers		Method: Track Hoe			
			Hole Diameter: N/A		Total Depth: 1 foot			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	136	0.1	No	PH04	0.5	0	SP-SM	0-1', SAND, dry, brown, poorly graded with silt and gravel, trace roots, no stain, no odor
Dry	284	0.2	No	PH04	1	1		
								Total Depth

		Sample Name: PH05		Date: 1/10/2022				
		Site Name: RDX 17 Federal Com #006H						
		Incident Number: nRM2019548894						
		Job Number: 03A1987010						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.041009, -103.901768			Logged By: Anna Byers		Method: Track Hoe			
			Hole Diameter: N/A		Total Depth: 1 foot			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	356	0.2	No	PH05	0.5	0	SP-SM	0-1', SAND, dry, brown, poorly graded with silt and gravel, trace roots, no stain, no odor
Dry	136	0.2	No	PH05	1	1		
								Total Depth

		Sample Name: PH06		Date: 1/10/2022				
		Site Name: RDX 17 Federal Com #006H						
		Incident Number: nRM2019548894						
		Job Number: 03A1987010						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.041009, -103.901768			Logged By: Anna Byers		Method: Track Hoe			
			Hole Diameter: N/A		Total Depth: 1 foot			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	<112	0.1	No	PH06	0.5	0	SP-SM	0-1', SAND, dry, brown, poorly graded with silt and gravel, trace roots, no stain, no odor
Dry	<112	0.2	No	PH06	1	1		
								Total Depth

		Sample Name: PH07		Date: 1/10/2022				
		Site Name: RDX 17 Federal Com #006H						
		Incident Number: nRM2019548894						
		Job Number: 03A1987010						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.041009, -103.901768			Logged By: Anna Byers		Method: Track Hoe			
			Hole Diameter: N/A		Total Depth: 1 foot			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	<112	0.1	No	PH07	0.5	0	SP-SM	0-1', SAND, dry, brown, poorly graded with silt and gravel, trace roots, no stain, no odor
Dry	<112	0.2	No	PH07	1	1		
								Total Depth

								Sample Name: PH08		Date: 1/10/2022			
								Site Name: RDX 17 Federal Com #006H					
								Incident Number: nRM2019548894					
								Job Number: 03A1987010					
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Anna Byers		Method: Track Hoe			
Coordinates: 32.041009, -103.901768								Hole Diameter: N/A		Total Depth: 1 foot			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
Dry	<112	0.2	No	PH08	0.5	0	SP-SM	0-1', SAND, dry, brown, poorly graded with silt and gravel, trace roots, no stain, no odor					
Dry	<112	0.1	No	PH08	1	1							
								Total Depth					

		Sample Name: PH09		Date: 1/10/2022				
		Site Name: RDX 17 Federal Com #006H						
		Incident Number: nRM2019548894						
		Job Number: 03A1987010						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.041009, -103.901768			Logged By: Gilbert Moreno		Method: Track Hoe			
			Hole Diameter: N/A		Total Depth: 4 feet			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	548	0.5	No	-	0.5	0	CCHE	0-4', CALICHE, dry, tan-brown, well graded, fine-medium grain, well consolidated, no stain, no odor
Dry	1,012	0.2	No	PH09	1	1		
Dry	1,412	0.1	No	PH09	2	2		
-	-	-	-	-	-	3		
Dry	2,015	0.3	No	PH09	4	4		
								Total Depth

		Sample Name: PH10		Date: 1/10/2022				
		Site Name: RDX 17 Federal Com #006H						
		Incident Number: nRM2019548894						
		Job Number: 03A1987010						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.041009, -103.901768			Logged By: Gilbert Moreno		Method: Track Hoe			
			Hole Diameter: N/A		Total Depth: 4 feet			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-4', CALICHE, dry, tan-brown, well graded, fine-medium grain, well consolidated, no stain, no odor
Dry	348	0.2	No	-	0.5			
Dry	648	0.5	No	PH10	1	1		
Dry	2,312	0.1	No	PH10	2	2		
-	-	-	-	-	-	3		
Dry	952	0.3	No	PH10	4	4		
								Total Depth

		Sample Name: PH11		Date: 1/10/2022				
		Site Name: RDX 17 Federal Com #006H						
		Incident Number: nRM2019548894						
		Job Number: 03A1987010						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.041009, -103.901768			Logged By: Gilbert Moreno		Method: Track Hoe			
			Hole Diameter: N/A		Total Depth: 4 feet			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-4', CALICHE, dry, tan-brown, well graded, fine-medium grain, well consolidated, no stain, no odor
Dry	348	0.2	No	-	0.5			
Dry	648	0.5	No	PH11	1	1		
Dry	2,312	0.1	No	PH11	2	2		
-	-	-	-	-	-	3		
Dry	952	0.3	No	PH11	4	4		
Total Depth								

		Sample Name: PH12		Date: 1/10/2022				
		Site Name: RDX 17 Federal Com #006H						
		Incident Number: nRM2019548894						
		Job Number: 03A1987010						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.041009, -103.901768			Logged By: Gilbert Moreno		Method: Track Hoe			
			Hole Diameter: N/A		Total Depth: 4 feet			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-4', CALICHE, dry, tan-brown, well graded, fine-medium grain, well consolidated, no stain, no odor
Dry	448	0.1	No	-	0.5			
Dry	748	0.2	No	PH12	1	1		
Dry	1,648	0.1	No	PH12	2	2		
-	-	-	-	-	-	3		
Dry	1,332	0.3	No	PH12	4	4		
								Total Depth



APPENDIX D

Tables



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 WPX Energy Permian, LLC. - RDX 17 Federal Com #006H
 Eddy County, New Mexico

Ensolum Project No. 03A1987010

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	GRO+DRO (mg/kg)	Total 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
Excavation Sidewall Soil Sample Analytical Results										
SW01	12/09/2021	0 - 4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	183
SW02	12/09/2021	0 - 4	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	137
SW03	12/09/2021	0 - 4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	375
SW04	12/10/2021	0 - 4	0.037	0.124	<50.0	<50.0	<50.0	<50.0	<50.0	162
SW05	12/15/2021	0 - 4	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	465
SW06	12/14/2021	0 - 4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	469
SW07	12/16/2021	1 - 4	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	513
SW08	12/16/2021	1 - 4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	395
SW09	12/16/2021	1 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	102
SW10	12/16/2021	1 - 4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	401
SW11	01/06/2022	0 - 4	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	214
SW12	01/06/2022	0 - 4	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	234
SW13	01/06/2022	0 - 4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	278
SW14	01/06/2022	0 - 4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	247
SW15	01/06/2022	0 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	431
SW16	01/06/2022	0 - 4	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	387
SW17	02/09/2022	0 - 4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	2,430
SW18	02/09/2022	0 - 4	<0.00201	<0.00402	<50.0	354	<50.0	354	354	5,230
SW19	02/09/2022	0 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	3,700
SW20	02/09/2022	0 - 4	<0.00199	<0.00398	<50.0	86.3	<50.0	86.3	86.3	3,590
SW21	02/09/2022	0 - 4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	4,990
SW22	02/09/2022	0 - 4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	9,120
SW23	02/09/2022	0 - 4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	4,450
Delineation Soil Sample Analytical Results										
PH01	01/07/2022	12	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	14,800
PH01	01/07/2022	22	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	12,900
PH02	01/07/2022	6	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	8,430



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 WPX Energy Permian, LLC. - RDX 17 Federal Com #006H
 Eddy County, New Mexico

Ensolum Project No. 03A1987010

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	GRO+DRO (mg/kg)	Total 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
PH02	01/07/2022	22	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	6,070
PH03	01/07/2022	6	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	9,860
PH03	01/07/2022	22	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	920
PH04	01/10/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	161
PH04	01/10/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	361
PH05	01/10/2022	0.5	<0.00199	<0.00398	<49.9	56.5	<49.9	56.5	56.5	421
PH05	01/10/2022	1	<0.00199	<0.00398	<49.9	76.8	<49.9	76.8	76.8	195
PH06	01/10/2022	0.5	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	6
PH06	01/10/2022	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	8
PH07	01/10/2022	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	<5.00
PH07	01/10/2022	1	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	<5.01
PH08	01/10/2022	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	11
PH08	01/10/2022	1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	326
PH09	01/10/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	2,620
PH09	01/10/2022	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	2,990
PH09	01/10/2022	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	3,390
PH10	01/10/2022	1	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	879
PH10	01/10/2022	2	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	3,970
PH10	01/10/2022	4	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	1,510
PH11	01/10/2022	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	1,580
PH11	01/10/2022	2	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	1,760
PH11	01/10/2022	4	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	2,630
PH12	01/10/2022	1	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	1,210
PH12	01/10/2022	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	2,000
PH12	01/10/2022	4	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	1,790

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

MRO: Motor Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Concentrations in **bold** exceed the New Mexico Administrative Code Reclamation

Standard (NMAC 19.15.29.13.D (1))



APPENDIX E

Laboratory Analytical Reports & Chain-of-Custody Documentation



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1694-1

Laboratory Sample Delivery Group: Eddy County
Client Project/Site: RDX 17-6 314083360.006

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
12/16/2021 4:21:16 PM

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

LINKS

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results through

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www.eurofinsus.com/Env

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

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

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Laboratory Job ID: 890-1694-1
SDG: Eddy County

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	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 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Job ID: 890-1694-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1694-1

Receipt

The samples were received on 12/9/2021 4:07 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-14447/5-B). 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.

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Client Sample ID: SW01

Lab Sample ID: 890-1694-1

Date Collected: 12/09/21 10:45

Matrix: Solid

Date Received: 12/09/21 16:07

Sample Depth: 0 - 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		12/13/21 07:30	12/13/21 16:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 16:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 16:43	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/13/21 07:30	12/13/21 16:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 16:43	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/13/21 07:30	12/13/21 16:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	12/13/21 07:30	12/13/21 16:43	1
1,4-Difluorobenzene (Surr)	112		70 - 130	12/13/21 07:30	12/13/21 16:43	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			12/14/21 10:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/13/21 12:32	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		12/13/21 08:26	12/13/21 17:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/13/21 08:26	12/13/21 17:00	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/13/21 08:26	12/13/21 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130	12/13/21 08:26	12/13/21 17:00	1
o-Terphenyl	96		70 - 130	12/13/21 08:26	12/13/21 17:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	183		4.98		mg/Kg			12/14/21 20:09	1

Client Sample ID: SW02

Lab Sample ID: 890-1694-2

Date Collected: 12/09/21 12:25

Matrix: Solid

Date Received: 12/09/21 16:07

Sample Depth: 0 - 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		12/13/21 07:30	12/13/21 17:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 17:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 17:03	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/13/21 07:30	12/13/21 17:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 17:03	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/13/21 07:30	12/13/21 17:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	12/13/21 07:30	12/13/21 17:03	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Client Sample ID: SW02

Lab Sample ID: 890-1694-2

Date Collected: 12/09/21 12:25

Matrix: Solid

Date Received: 12/09/21 16:07

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	106		70 - 130	12/13/21 07:30	12/13/21 17:03	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			12/14/21 10:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			12/13/21 12:32	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		12/13/21 08:26	12/13/21 17:21	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		12/13/21 08:26	12/13/21 17:21	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		12/13/21 08:26	12/13/21 17:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	70		70 - 130				12/13/21 08:26	12/13/21 17:21	1
o-Terphenyl	87		70 - 130				12/13/21 08:26	12/13/21 17:21	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	137		4.95		mg/Kg			12/14/21 20:20	1

Client Sample ID: SW03

Lab Sample ID: 890-1694-3

Date Collected: 12/09/21 13:00

Matrix: Solid

Date Received: 12/09/21 16:07

Sample Depth: 0 - 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		12/13/21 07:30	12/13/21 17:24	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/13/21 07:30	12/13/21 17:24	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/13/21 07:30	12/13/21 17:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/13/21 07:30	12/13/21 17:24	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/13/21 07:30	12/13/21 17:24	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/13/21 07:30	12/13/21 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	12/13/21 07:30	12/13/21 17:24	1
1,4-Difluorobenzene (Surr)	107		70 - 130	12/13/21 07:30	12/13/21 17:24	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/14/21 10:16	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			12/13/21 12:32	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Client Sample ID: SW03
Date Collected: 12/09/21 13:00
Date Received: 12/09/21 16:07
Sample Depth: 0 - 4

Lab Sample ID: 890-1694-3
Matrix: Solid

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		12/13/21 08:26	12/13/21 17:42	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/13/21 08:26	12/13/21 17:42	1	
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/13/21 08:26	12/13/21 17:42	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	75		70 - 130				12/13/21 08:26	12/13/21 17:42	1	
o-Terphenyl	93		70 - 130				12/13/21 08:26	12/13/21 17:42	1	

Method: 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	375		5.00		mg/Kg			12/15/21 16:15	1	

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1694-1	SW01	113	112
890-1694-2	SW02	113	106
890-1694-3	SW03	117	107
890-1695-A-1-A MS	Matrix Spike	104	96
890-1695-A-1-B MSD	Matrix Spike Duplicate	101	98
LCS 880-14447/1-A	Lab Control Sample	108	100
LCSD 880-14447/2-A	Lab Control Sample Dup	105	101
MB 880-14447/5-B	Method Blank	132 S1+	105
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1694-1	SW01	78	96
890-1694-2	SW02	70	87
890-1694-3	SW03	75	93
890-1695-A-1-F MS	Matrix Spike	84	83
890-1695-A-1-G MSD	Matrix Spike Duplicate	88	88
LCS 880-14599/2-A	Lab Control Sample	89	97
LCSD 880-14599/3-A	Lab Control Sample Dup	118	118
MB 880-14599/1-A	Method Blank	94	119
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-14447/5-B

Matrix: Solid

Analysis Batch: 14589

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 14447

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 10:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 10:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 10:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/13/21 07:30	12/13/21 10:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/21 07:30	12/13/21 10:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/13/21 07:30	12/13/21 10:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	12/13/21 07:30	12/13/21 10:34	1
1,4-Difluorobenzene (Surr)	105		70 - 130	12/13/21 07:30	12/13/21 10:34	1

Lab Sample ID: LCS 880-14447/1-A

Matrix: Solid

Analysis Batch: 14589

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 14447

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09495		mg/Kg		95	70 - 130
Toluene	0.100	0.08907		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.08816		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	0.200	0.1830		mg/Kg		92	70 - 130
o-Xylene	0.100	0.09232		mg/Kg		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: LCSD 880-14447/2-A

Matrix: Solid

Analysis Batch: 14589

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 14447

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08985		mg/Kg		90	70 - 130	6	35
Toluene	0.100	0.08570		mg/Kg		86	70 - 130	4	35
Ethylbenzene	0.100	0.08480		mg/Kg		85	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1768		mg/Kg		88	70 - 130	3	35
o-Xylene	0.100	0.08732		mg/Kg		87	70 - 130	6	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-1695-A-1-B MSD

Matrix: Solid

Analysis Batch: 14589

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 14447

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0990	0.08933		mg/Kg					
Toluene	<0.00200	U	0.0990	0.08357		mg/Kg					

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

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

Lab Sample ID: 890-1695-A-1-B MSD

Matrix: Solid

Analysis Batch: 14589

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 14447

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00200	U	0.0990	0.08153		mg/Kg					
m-Xylene & p-Xylene	<0.00400	U	0.198	0.1734		mg/Kg					
o-Xylene	<0.00200	U	0.0990	0.08500		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: 890-1695-A-1-A MS

Matrix: Solid

Analysis Batch: 14589

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

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

Lab Sample ID: MB 880-14599/1-A

Matrix: Solid

Analysis Batch: 14594

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 14599

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		12/13/21 08:26	12/13/21 09:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/13/21 08:26	12/13/21 09:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/13/21 08:26	12/13/21 09:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	12/13/21 08:26	12/13/21 09:22	1
o-Terphenyl	119		70 - 130	12/13/21 08:26	12/13/21 09:22	1

Lab Sample ID: LCS 880-14599/2-A

Matrix: Solid

Analysis Batch: 14594

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 14599

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	804.6		mg/Kg		80	70 - 130
Diesel Range Organics (Over C10-C28)	1000	856.7		mg/Kg		86	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	97		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

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

Lab Sample ID: LCSD 880-14599/3-A

Matrix: Solid

Analysis Batch: 14594

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 14599

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	951.7		mg/Kg		95	70 - 130	17	20
Diesel Range Organics (Over C10-C28)	1000	1000		mg/Kg		100	70 - 130	15	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	118		70 - 130						
o-Terphenyl	118		70 - 130						

Lab Sample ID: 890-1695-A-1-F MS

Matrix: Solid

Analysis Batch: 14594

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 14599

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1257		mg/Kg		124	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	997	1250		mg/Kg		125	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	84		70 - 130								
o-Terphenyl	83		70 - 130								

Lab Sample ID: 890-1695-A-1-G MSD

Matrix: Solid

Analysis Batch: 14594

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 14599

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1307		mg/Kg		128	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1343	F1	mg/Kg		134	70 - 130	7	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	88		70 - 130								
o-Terphenyl	88		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-14499/1-A

Matrix: Solid

Analysis Batch: 14775

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			12/14/21 15:15	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-14499/2-A				Client Sample ID: Lab Control Sample							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 14775											
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	268.0		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-14499/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 14775											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	271.0		mg/Kg		108	90 - 110	1	20

Lab Sample ID: 890-1689-A-8-E MS				Client Sample ID: Matrix Spike							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 14775											
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	135		249	404.7		mg/Kg		109	90 - 110		

Lab Sample ID: 890-1689-A-8-F MSD				Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 14775											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	135		249	400.3		mg/Kg		107	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

GC VOA

Prep Batch: 14447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1694-1	SW01	Total/NA	Solid	5035	
890-1694-2	SW02	Total/NA	Solid	5035	
890-1694-3	SW03	Total/NA	Solid	5035	
MB 880-14447/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-14447/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-14447/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1695-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 14589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1694-1	SW01	Total/NA	Solid	8021B	14447
890-1694-2	SW02	Total/NA	Solid	8021B	14447
890-1694-3	SW03	Total/NA	Solid	8021B	14447
MB 880-14447/5-B	Method Blank	Total/NA	Solid	8021B	14447
LCS 880-14447/1-A	Lab Control Sample	Total/NA	Solid	8021B	14447
LCSD 880-14447/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	14447
890-1695-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	
890-1695-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	14447

Analysis Batch: 14761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1694-1	SW01	Total/NA	Solid	Total BTEX	
890-1694-2	SW02	Total/NA	Solid	Total BTEX	
890-1694-3	SW03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 14594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1694-1	SW01	Total/NA	Solid	8015B NM	14599
890-1694-2	SW02	Total/NA	Solid	8015B NM	14599
890-1694-3	SW03	Total/NA	Solid	8015B NM	14599
MB 880-14599/1-A	Method Blank	Total/NA	Solid	8015B NM	14599
LCS 880-14599/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	14599
LCSD 880-14599/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	14599
890-1695-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	14599
890-1695-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	14599

Prep Batch: 14599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1694-1	SW01	Total/NA	Solid	8015NM Prep	
890-1694-2	SW02	Total/NA	Solid	8015NM Prep	
890-1694-3	SW03	Total/NA	Solid	8015NM Prep	
MB 880-14599/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-14599/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-14599/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1695-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1695-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

GC Semi VOA

Analysis Batch: 14652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1694-1	SW01	Total/NA	Solid	8015 NM	
890-1694-2	SW02	Total/NA	Solid	8015 NM	
890-1694-3	SW03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 14499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1694-1	SW01	Soluble	Solid	DI Leach	
890-1694-2	SW02	Soluble	Solid	DI Leach	
890-1694-3	SW03	Soluble	Solid	DI Leach	
MB 880-14499/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-14499/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-14499/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1689-A-8-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1689-A-8-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 14775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1694-1	SW01	Soluble	Solid	300.0	14499
890-1694-2	SW02	Soluble	Solid	300.0	14499
890-1694-3	SW03	Soluble	Solid	300.0	14499
MB 880-14499/1-A	Method Blank	Soluble	Solid	300.0	14499
LCS 880-14499/2-A	Lab Control Sample	Soluble	Solid	300.0	14499
LCSD 880-14499/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	14499
890-1689-A-8-E MS	Matrix Spike	Soluble	Solid	300.0	14499
890-1689-A-8-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	14499

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Client Sample ID: SW01

Lab Sample ID: 890-1694-1

Date Collected: 12/09/21 10:45

Matrix: Solid

Date Received: 12/09/21 16:07

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	14447	12/13/21 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	14589	12/13/21 16:43	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			14761	12/14/21 10:16	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14652	12/13/21 12:32	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	14599	12/13/21 08:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			14594	12/13/21 17:00	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	14499	12/10/21 12:24	CH	XEN MID
Soluble	Analysis	300.0		1			14775	12/14/21 20:09	CH	XEN MID

Client Sample ID: SW02

Lab Sample ID: 890-1694-2

Date Collected: 12/09/21 12:25

Matrix: Solid

Date Received: 12/09/21 16:07

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	14447	12/13/21 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	14589	12/13/21 17:03	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			14761	12/14/21 10:16	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14652	12/13/21 12:32	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	14599	12/13/21 08:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			14594	12/13/21 17:21	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	14499	12/10/21 12:24	CH	XEN MID
Soluble	Analysis	300.0		1			14775	12/14/21 20:20	CH	XEN MID

Client Sample ID: SW03

Lab Sample ID: 890-1694-3

Date Collected: 12/09/21 13:00

Matrix: Solid

Date Received: 12/09/21 16:07

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	14447	12/13/21 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	14589	12/13/21 17:24	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			14761	12/14/21 10:16	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14652	12/13/21 12:32	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	14599	12/13/21 08:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			14594	12/13/21 17:42	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	14499	12/10/21 12:24	CH	XEN MID
Soluble	Analysis	300.0		1			14775	12/15/21 16:15	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 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Laboratory: Eurofins Xenco, Midland

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

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6 314083360.006

Job ID: 890-1694-1
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 17-6 314083360.006

Job ID: 890-1694-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1694-1	SW01	Solid	12/09/21 10:45	12/09/21 16:07	0 - 4
890-1694-2	SW02	Solid	12/09/21 12:25	12/09/21 16:07	0 - 4
890-1694-3	SW03	Solid	12/09/21 13:00	12/09/21 16:07	0 - 4

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



Environment Testing

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-333-
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

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Project Manager:	JOSEPH HERNANDEZ	Bill to: (if different)	JIM RALEY
Company Name:	WSP USA	Company Name:	WSPX
Address:	3300 N A Street	Address:	5315 BUENA VISTA DR
City, State ZIP:	MIDLAND, TX 79705	City, State ZIP:	Carlsbad, NM 88228
Phone:	(281) 702-2321	Email:	cuna.byers@wsp.com

Work Order Comments	
Program:	UST/PST ☐ PPP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:	
Reporting:	Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables:	EDD ☐ ADAP ☐ Other: _____

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	TPH	BTE	Chlo	Sample Comments
SW01	S	12/19/21	1545	0-4'	Comp	1	X	X	X	Cost Center : 1461137001
SW02	S	12/19/21	1225	0-4'	↑	1	X	X	X	
SW03	S	12/19/21	1300	0-4'	↑	1	X	X	X	

Total 200.7 / 6010	200.8 / 6020:	8RCRA	13PPM	Texas	11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO ₂	Na	Sr	Tl	Sn	U	V	Zn
Circle Method(s) and Metal(s) to be analyzed		TC1P	/SP1P	6010	:	8RCRA	5b	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Tl	U											
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xeno. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xeno will be liable only for the cost of samples and shall not assume any responsibility for any losses or expense incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xeno. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xeno, but not analyzed. These terms will be enforced unless previously negotiated.																																	
Hg: 1631 / 245.1 / 7470 / 7471																																	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Joe Delp	12/9/21			

Blue/Black Ink - 08/12/2020 Rev. 2000 2

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1694-1

SDG Number: Eddy County

Login Number: 1694

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: 890-1694-1

SDG Number: Eddy County

Login Number: 1694

List Number: 2

Creator: Lowe, Katie

List Source: Eurofins Xenco, Midland

List Creation: 12/13/21 07:53 AM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1699-1

Laboratory Sample Delivery Group: 31403360.006

Client Project/Site: RDX 17-6

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
12/20/2021 4:17:55 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 17-6

Laboratory Job ID: 890-1699-1
SDG: 31403360.006

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

Job ID: 890-1699-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative	Job Narrative 890-1699-1
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Receipt

The sample was received on 12/13/2021 12:31 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-14776 and analytical batch 880-14800 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (880-9270-A-1-F 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.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike (MS) recovery for preparation batch 880-14833 and analytical batch 880-14982 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. The associated sample is: SW04 (890-1699-1).

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 17-6

Job ID: 890-1699-1
SDG: 31403360.006

Client Sample ID: SW04

Lab Sample ID: 890-1699-1

Date Collected: 12/10/21 09:45

Matrix: Solid

Date Received: 12/13/21 12:31

Sample Depth: 0 - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0370		0.00198		mg/Kg		12/14/21 07:30	12/14/21 12:25	1
Toluene	0.0642		0.00198		mg/Kg		12/14/21 07:30	12/14/21 12:25	1
Ethylbenzene	0.00482		0.00198		mg/Kg		12/14/21 07:30	12/14/21 12:25	1
m-Xylene & p-Xylene	0.0144		0.00396		mg/Kg		12/14/21 07:30	12/14/21 12:25	1
o-Xylene	0.00334		0.00198		mg/Kg		12/14/21 07:30	12/14/21 12:25	1
Xylenes, Total	0.0177		0.00396		mg/Kg		12/14/21 07:30	12/14/21 12:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	12/14/21 07:30	12/14/21 12:25	1
1,4-Difluorobenzene (Surr)	114		70 - 130	12/14/21 07:30	12/14/21 12:25	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.124		0.00396		mg/Kg			12/20/21 15:38	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			12/17/21 09:16	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		12/14/21 11:31	12/15/21 18:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/14/21 11:31	12/15/21 18:20	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/14/21 11:31	12/15/21 18:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130				12/14/21 11:31	12/15/21 18:20	1
o-Terphenyl	106		70 - 130				12/14/21 11:31	12/15/21 18:20	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	162		4.98		mg/Kg			12/19/21 22:26	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

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)
890-1699-1	SW04	107	114
890-1699-1 MS	SW04	103	99
890-1699-1 MSD	SW04	107	104
LCS 880-14660/1-A	Lab Control Sample	99	105
LCSD 880-14660/2-A	Lab Control Sample Dup	104	108
MB 880-14660/5-A	Method Blank	117	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)
880-9270-A-1-E MS	Matrix Spike	73	79
880-9270-A-1-F MSD	Matrix Spike Duplicate	60 S1-	65 S1-
890-1699-1	SW04	89	106
LCS 880-14776/2-A	Lab Control Sample	98	102
LCSD 880-14776/3-A	Lab Control Sample Dup	103	102
MB 880-14776/1-A	Method Blank	89	104
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-14660/5-A

Matrix: Solid

Analysis Batch: 14700

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 14660

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/14/21 07:30	12/14/21 10:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/14/21 07:30	12/14/21 10:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/14/21 07:30	12/14/21 10:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/14/21 07:30	12/14/21 10:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/14/21 07:30	12/14/21 10:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/14/21 07:30	12/14/21 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	12/14/21 07:30	12/14/21 10:41	1
1,4-Difluorobenzene (Surr)	102		70 - 130	12/14/21 07:30	12/14/21 10:41	1

Lab Sample ID: LCS 880-14660/1-A

Matrix: Solid

Analysis Batch: 14700

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 14660

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08602		mg/Kg		86	70 - 130
Toluene	0.100	0.07927		mg/Kg		79	70 - 130
Ethylbenzene	0.100	0.07784		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	0.200	0.1589		mg/Kg		79	70 - 130
o-Xylene	0.100	0.07845		mg/Kg		78	70 - 130

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

Lab Sample ID: LCSD 880-14660/2-A

Matrix: Solid

Analysis Batch: 14700

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 14660

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1000		mg/Kg		100	70 - 130	15	35
Toluene	0.100	0.09082		mg/Kg		91	70 - 130	14	35
Ethylbenzene	0.100	0.08966		mg/Kg		90	70 - 130	14	35
m-Xylene & p-Xylene	0.200	0.1825		mg/Kg		91	70 - 130	14	35
o-Xylene	0.100	0.09067		mg/Kg		91	70 - 130	14	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-1699-1 MSD

Matrix: Solid

Analysis Batch: 14700

Client Sample ID: SW04

Prep Type: Total/NA

Prep Batch: 14660

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0370		0.101	0.09777		mg/Kg					
Toluene	0.0642		0.101	0.09286		mg/Kg					

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

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

Lab Sample ID: 890-1699-1 MSD

Matrix: Solid

Analysis Batch: 14700

Client Sample ID: SW04

Prep Type: Total/NA

Prep Batch: 14660

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	0.00482		0.101	0.09246		mg/Kg					
m-Xylene & p-Xylene	0.0144		0.201	0.1911		mg/Kg					
o-Xylene	0.00334		0.101	0.09407		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-1699-1 MS

Matrix: Solid

Analysis Batch: 14700

Client Sample ID: SW04

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

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

Lab Sample ID: MB 880-14776/1-A

Matrix: Solid

Analysis Batch: 14800

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 14776

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		12/14/21 11:31	12/15/21 10:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/14/21 11:31	12/15/21 10:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/14/21 11:31	12/15/21 10:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	12/14/21 11:31	12/15/21 10:05	1
o-Terphenyl	104		70 - 130	12/14/21 11:31	12/15/21 10:05	1

Lab Sample ID: LCS 880-14776/2-A

Matrix: Solid

Analysis Batch: 14800

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 14776

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	945.0		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1042		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	102		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

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

Lab Sample ID: LCSD 880-14776/3-A

Matrix: Solid

Analysis Batch: 14800

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 14776

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	804.8		mg/Kg		80	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	1000	888.6		mg/Kg		89	70 - 130	16	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	103		70 - 130						
o-Terphenyl	102		70 - 130						

Lab Sample ID: 880-9270-A-1-E MS

Matrix: Solid

Analysis Batch: 14800

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 14776

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.		
	Result	Qualifier	Added	Result	Qualifier				Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	997	1180		mg/Kg		116	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	997	752.4		mg/Kg		75	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	73		70 - 130								
o-Terphenyl	79		70 - 130								

Lab Sample ID: 880-9270-A-1-F MSD

Matrix: Solid

Analysis Batch: 14800

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 14776

	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 F2	999	831.4	F2	mg/Kg		81	70 - 130	35	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	625.3	F1	mg/Kg		63	70 - 130	18	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	60	S1-	70 - 130								
o-Terphenyl	65	S1-	70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-14833/1-A

Matrix: Solid

Analysis Batch: 14982

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			12/17/21 08:48	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-14833/2-A					Client Sample ID: Lab Control Sample				
Matrix: Solid					Prep Type: Soluble				
Analysis Batch: 14982									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	250	257.3		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-14833/3-A					Client Sample ID: Lab Control Sample Dup				
Matrix: Solid					Prep Type: Soluble				
Analysis Batch: 14982									
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	258.3		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

GC VOA

Prep Batch: 14660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1699-1	SW04	Total/NA	Solid	5035	
MB 880-14660/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-14660/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-14660/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1699-1 MSD	SW04	Total/NA	Solid	5035	

Analysis Batch: 14700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1699-1	SW04	Total/NA	Solid	8021B	14660
MB 880-14660/5-A	Method Blank	Total/NA	Solid	8021B	14660
LCS 880-14660/1-A	Lab Control Sample	Total/NA	Solid	8021B	14660
LCSD 880-14660/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	14660
890-1699-1 MS	SW04	Total/NA	Solid	8021B	
890-1699-1 MSD	SW04	Total/NA	Solid	8021B	14660

Analysis Batch: 15211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1699-1	SW04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 14776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1699-1	SW04	Total/NA	Solid	8015NM Prep	
MB 880-14776/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-14776/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-14776/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-9270-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-9270-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 14800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1699-1	SW04	Total/NA	Solid	8015B NM	14776
MB 880-14776/1-A	Method Blank	Total/NA	Solid	8015B NM	14776
LCS 880-14776/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	14776
LCSD 880-14776/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	14776
880-9270-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	14776
880-9270-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	14776

Analysis Batch: 15045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1699-1	SW04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 14833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1699-1	SW04	Soluble	Solid	DI Leach	
MB 880-14833/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-14833/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-14833/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

HPLC/IC

Analysis Batch: 14982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1699-1	SW04	Soluble	Solid	300.0	14833
MB 880-14833/1-A	Method Blank	Soluble	Solid	300.0	14833
LCS 880-14833/2-A	Lab Control Sample	Soluble	Solid	300.0	14833
LCSD 880-14833/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	14833

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Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

Client Sample ID: SW04
Date Collected: 12/10/21 09:45
Date Received: 12/13/21 12:31

Lab Sample ID: 890-1699-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	14660	12/14/21 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	14700	12/14/21 12:25	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15211	12/20/21 15:38	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			15045	12/17/21 09:16	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	14776	12/14/21 11:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			14800	12/15/21 18:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	14833	12/15/21 11:24	CA	XEN MID
Soluble	Analysis	300.0		1			14982	12/19/21 22:26	SC	XEN MID

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1699-1
SDG: 31403360.006

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 17-6

Job ID: 890-1699-1
SDG: 31403360.006

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 17-6

Job ID: 890-1699-1
SDG: 31403360.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1699-1	SW04	Solid	12/10/21 09:45	12/13/21 12:31	0 - 4

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



Environment Testing

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-333-
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

Page 1 of 1
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Project Manager:	Joseph Hernandez	Bill to: (if different)	Tim Raley
Company Name:	WSP USA	Company Name:	WSPX
Address:	3325 N A Street	Address:	5315 Buena Vista Dr.
City, State ZIP:	Middleburg, TX 79705	City, State ZIP:	Fort Worth, TX 76122
Phone:	(214) 762-2324	Email:	anna.bayes@wsp.com

Work Order Comments				
Program:	UST/PST ☐	PRP ☐	Brownfields ☐	RRC ☐ Superfund ☐
State of Project:				
Reporting:	Level II ☐	Level III ☐	PST/UST ☐	TRRP ☐ Level IV ☐
Deliverables:	EDD ☐	AdAPT ☐	Other: _____	

Project Name:		RDX 17-c		Turn Around		Pres. Code		ANALYSIS REQUEST		Preservative Codes	
Project Number:		31493840 ppile		☒ Routine ☐ Rush						None: NO	
Project Location:		Edley County		Due Date:						Cool: Cool	
Sampler's Name:		Anna Rogers		TAT starts the day received by the lab if received by 430pm						HCL: HCL	
P.O. #:		N2m299546,644								H ₂ SO ₄ : H ₂	
SAMPLE RECEIPT		Temp Blank:		☒ Yes ☐ No		Wet Ice:		☒ Yes ☐ No		H ₃ PO ₄ : HP	
Samples Received Intact:		☒ Yes ☐ No		Thermometer ID:		TWM-2004				NaHSO ₄ : NABIS	
Cooler Custody Seals:		Yes ☐ No ☒ N/A		Correction Factor:		-0.2				Na ₂ S ₂ O ₃ : NaSO ₃	
Sample Custody Seals:		Yes ☐ No ☒ N/A		Temperature Reading:		3.2				Zn Acetate+NaOH: Zn	
Total Containers:				Corrected Temperature:		3.0				NaOH+Ascorbic Acid: SAPC	
Parameters											
H (EPA 8215 mod)											
EX(EPA 821 B)											
oxide (EPA 340.0)											
											
890-1699 Chain of Custody											

[illegible]

Total 2007 / 6010	2008 / 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 SiO ₂ Na Sr Ti Sn U V Zn
TCPLP / SPLP 6010 :	8RCRA 5b	As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Chunne Byers</i>	<i>[Signature]</i>	12-13-21 4:00	2 <i>[Signature]</i>	<i>[Signature]</i>	12-13-21 12:3
3			4		
5			6		

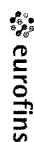
Printed Date: 08/25/2026 Rev: 2020.2

Eurofins Xenco, Carlsbad

1089 N Canal St.

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

Chain of Custody Record



Environment Testing America

[illegible]

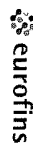
Eurofins Xenco, Carlsbad

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: 890-1699-1

SDG Number: 31403360.006

Login Number: 1699

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: 890-1699-1

SDG Number: 31403360.006

Login Number: 1699

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Xenco, Midland

List Creation: 12/14/21 12:00 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1725-1

Laboratory Sample Delivery Group: 31403360.006

Client Project/Site: RDX 17-6

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
12/23/2021 3:07:24 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 17-6

Laboratory Job ID: 890-1725-1
SDG: 31403360.006

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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 17-6

Job ID: 890-1725-1
SDG: 31403360.006

Job ID: 890-1725-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative	Job Narrative 890-1725-1
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Receipt

The samples were received on 12/15/2021 3:54 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA

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 17-6

Job ID: 890-1725-1
SDG: 31403360.006

Client Sample ID: SW05

Lab Sample ID: 890-1725-1

Date Collected: 12/15/21 09:40

Matrix: Solid

Date Received: 12/15/21 15:54

Sample Depth: 0 - 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		12/17/21 15:00	12/18/21 03:36	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 03:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 03:36	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/17/21 15:00	12/18/21 03:36	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 03:36	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/17/21 15:00	12/18/21 03:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	12/17/21 15:00	12/18/21 03:36	1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/17/21 15:00	12/18/21 03:36	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			12/21/21 14:36	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			12/23/21 12:30	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		12/17/21 14:20	12/20/21 15:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/17/21 14:20	12/20/21 15:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/17/21 14:20	12/20/21 15:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	12/17/21 14:20	12/20/21 15:58	1
o-Terphenyl	100		70 - 130	12/17/21 14:20	12/20/21 15:58	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	465		4.95		mg/Kg			12/20/21 15:46	1

Client Sample ID: SW06

Lab Sample ID: 890-1725-2

Date Collected: 12/14/21 09:50

Matrix: Solid

Date Received: 12/15/21 15:54

Sample Depth: 0 - 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		12/17/21 15:00	12/18/21 03:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 03:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 03:56	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/17/21 15:00	12/18/21 03:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 03:56	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/17/21 15:00	12/18/21 03:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	12/17/21 15:00	12/18/21 03:56	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

Client Sample ID: SW06

Lab Sample ID: 890-1725-2

Date Collected: 12/14/21 09:50

Matrix: Solid

Date Received: 12/15/21 15:54

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	108		70 - 130	12/17/21 15:00	12/18/21 03:56	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			12/21/21 14:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/23/21 12:30	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		12/17/21 14:20	12/20/21 16:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/17/21 14:20	12/20/21 16:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/17/21 14:20	12/20/21 16:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130				12/17/21 14:20	12/20/21 16:18	1
o-Terphenyl	98		70 - 130				12/17/21 14:20	12/20/21 16:18	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	469		4.96		mg/Kg			12/20/21 12:55	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

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)
880-9404-A-21-E MS	Matrix Spike	110	97
880-9404-A-21-F MSD	Matrix Spike Duplicate	106	96
890-1725-1	SW05	115	93
890-1725-2	SW06	122	108
LCS 880-15018/1-A	Lab Control Sample	108	92
LCSD 880-15018/2-A	Lab Control Sample Dup	109	94
MB 880-14947/5-A	Method Blank	127	103
MB 880-15018/5-A	Method Blank	126	105
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-9504-A-1-K MS	Matrix Spike	84	83
880-9504-A-1-L MSD	Matrix Spike Duplicate	86	85
890-1725-1	SW05	100	100
890-1725-2	SW06	99	98
890-1727-A-21-I MS	Matrix Spike	113	98
890-1727-A-21-J MSD	Matrix Spike Duplicate	111	97
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-15090/2-A	Lab Control Sample	100	97
LCS 880-15229/2-A	Lab Control Sample	104	107
LCSD 880-15090/3-A	Lab Control Sample Dup	110	116
LCSD 880-15229/3-A	Lab Control Sample Dup	113	118
MB 880-15090/1-A	Method Blank	142 S1+	233 S1+
MB 880-15229/1-A	Method Blank	135 S1+	131 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-14947/5-A

Matrix: Solid

Analysis Batch: 15044

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 14947

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/17/21 07:30	12/17/21 12:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/17/21 07:30	12/17/21 12:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/17/21 07:30	12/17/21 12:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/17/21 07:30	12/17/21 12:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/17/21 07:30	12/17/21 12:15	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/17/21 07:30	12/17/21 12:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	12/17/21 07:30	12/17/21 12:15	1
1,4-Difluorobenzene (Surr)	103		70 - 130	12/17/21 07:30	12/17/21 12:15	1

Lab Sample ID: MB 880-15018/5-A

Matrix: Solid

Analysis Batch: 15044

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 01:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 01:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 01:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/17/21 15:00	12/18/21 01:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/17/21 15:00	12/18/21 01:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/17/21 15:00	12/18/21 01:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	12/17/21 15:00	12/18/21 01:24	1
1,4-Difluorobenzene (Surr)	105		70 - 130	12/17/21 15:00	12/18/21 01:24	1

Lab Sample ID: LCS 880-15018/1-A

Matrix: Solid

Analysis Batch: 15044

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15018

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07815		mg/Kg		78	70 - 130
Toluene	0.100	0.07801		mg/Kg		78	70 - 130
Ethylbenzene	0.100	0.08074		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	0.200	0.1599		mg/Kg		80	70 - 130
o-Xylene	0.100	0.08036		mg/Kg		80	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: LCSD 880-15018/2-A

Matrix: Solid

Analysis Batch: 15044

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15018

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.07388		mg/Kg		74	70 - 130	6	35

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

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

Lab Sample ID: LCSD 880-15018/2-A

Matrix: Solid

Analysis Batch: 15044

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15018

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.08103		mg/Kg		81	70 - 130	4	35
Ethylbenzene	0.100	0.08149		mg/Kg		81	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1570		mg/Kg		79	70 - 130	2	35
o-Xylene	0.100	0.08323		mg/Kg		83	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 880-9404-A-21-E MS

Matrix: Solid

Analysis Batch: 15044

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 15018

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00201	U	0.101	0.07600		mg/Kg		76	70 - 130
Toluene	<0.00201	U	0.101	0.07954		mg/Kg		79	70 - 130
Ethylbenzene	<0.00201	U	0.101	0.08324		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1594		mg/Kg		79	70 - 130
o-Xylene	<0.00201	U	0.101	0.07839		mg/Kg		78	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 880-9404-A-21-F MSD

Matrix: Solid

Analysis Batch: 15044

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 15018

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.07352		mg/Kg		74	70 - 130	3	35
Toluene	<0.00201	U	0.0990	0.07366		mg/Kg		74	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.0990	0.08113		mg/Kg		82	70 - 130	3	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1543		mg/Kg		78	70 - 130	3	35
o-Xylene	<0.00201	U	0.0990	0.08041		mg/Kg		81	70 - 130	3	35

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

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

Lab Sample ID: MB 880-15090/1-A

Matrix: Solid

Analysis Batch: 15096

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15090

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		12/17/21 14:20	12/20/21 12:12	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

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

Lab Sample ID: MB 880-15090/1-A

Matrix: Solid

Analysis Batch: 15096

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15090

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/17/21 14:20	12/20/21 12:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/17/21 14:20	12/20/21 12:12	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130				12/17/21 14:20	12/20/21 12:12	1
o-Terphenyl	233	S1+	70 - 130				12/17/21 14:20	12/20/21 12:12	1

Lab Sample ID: LCS 880-15090/2-A

Matrix: Solid

Analysis Batch: 15096

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15090

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	883.9		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	935.7		mg/Kg		94	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	100		70 - 130				
o-Terphenyl	97		70 - 130				

Lab Sample ID: LCSD 880-15090/3-A

Matrix: Solid

Analysis Batch: 15096

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15090

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	924.4		mg/Kg		92	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	953.9		mg/Kg		95	70 - 130	2	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	110		70 - 130						
o-Terphenyl	116		70 - 130						

Lab Sample ID: 890-1727-A-21-I MS

Matrix: Solid

Analysis Batch: 15096

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 15090

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	996	1328		mg/Kg		129	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	996	1339	F1	mg/Kg		134	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	113		70 - 130						
o-Terphenyl	98		70 - 130						

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

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

Lab Sample ID: 890-1727-A-21-J MSD

Matrix: Solid

Analysis Batch: 15096

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 15090

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	995	1392	F1	mg/Kg		136	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	995	1328	F1	mg/Kg		133	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	111		70 - 130								
o-Terphenyl	97		70 - 130								

Lab Sample ID: MB 880-15229/1-A

Matrix: Solid

Analysis Batch: 15231

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15229

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		12/21/21 07:55	12/21/21 09:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/21/21 07:55	12/21/21 09:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/21/21 07:55	12/21/21 09:16	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	135	S1+	70 - 130				12/21/21 07:55	12/21/21 09:16	1
o-Terphenyl	131	S1+	70 - 130				12/21/21 07:55	12/21/21 09:16	1

Lab Sample ID: LCS 880-15229/2-A

Matrix: Solid

Analysis Batch: 15231

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15229

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	884.2		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	919.9		mg/Kg		92	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1-Chlorooctane	104		70 - 130						
o-Terphenyl	107		70 - 130						

Lab Sample ID: LCSD 880-15229/3-A

Matrix: Solid

Analysis Batch: 15231

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15229

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	922.3		mg/Kg		92	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	943.9		mg/Kg		94	70 - 130	3	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

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

Lab Sample ID: LCSD 880-15229/3-A

Matrix: Solid

Analysis Batch: 15231

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15229

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: 880-9504-A-1-K MS

Matrix: Solid

Analysis Batch: 15231

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 15229

	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	996	1046		mg/Kg		101	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U	996	812.5		mg/Kg		82	70 - 130	
Surrogate	%Recovery	Qualifier	Limits	MS	MS					
1-Chlorooctane	84		70 - 130							
o-Terphenyl	83		70 - 130							

Lab Sample ID: 880-9504-A-1-L MSD

Matrix: Solid

Analysis Batch: 15231

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 15229

	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	995	1069		mg/Kg		104	70 - 130	2	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	995	836.9		mg/Kg		84	70 - 130	3	20	
Surrogate	%Recovery	Qualifier	Limits	MSD	MSD							
1-Chlorooctane	86		70 - 130									
o-Terphenyl	85		70 - 130									

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15089/1-A

Matrix: Solid

Analysis Batch: 15128

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			12/20/21 10:02	1	

Lab Sample ID: LCS 880-15089/2-A

Matrix: Solid

Analysis Batch: 15128

Client Sample ID: Lab Control Sample

Prep Type: Soluble

	Spike	LCS	LCS						%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits			
Chloride	250	265.7		mg/Kg		106	90 - 110			

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-15089/3-A
Matrix: Solid
Analysis Batch: 15128

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	271.6		mg/Kg		109	90 - 110	2	20

Lab Sample ID: 890-1723-A-4-E MS
Matrix: Solid
Analysis Batch: 15128

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	1130		250	1377	4	mg/Kg		100	90 - 110		

Lab Sample ID: 890-1723-A-4-F MSD
Matrix: Solid
Analysis Batch: 15128

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	1130		250	1372	4	mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

GC VOA

Prep Batch: 14947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-14947/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 15018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1725-1	SW05	Total/NA	Solid	5035	
890-1725-2	SW06	Total/NA	Solid	5035	
MB 880-15018/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-15018/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-15018/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-9404-A-21-E MS	Matrix Spike	Total/NA	Solid	5035	
880-9404-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 15044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1725-1	SW05	Total/NA	Solid	8021B	15018
890-1725-2	SW06	Total/NA	Solid	8021B	15018
MB 880-14947/5-A	Method Blank	Total/NA	Solid	8021B	14947
MB 880-15018/5-A	Method Blank	Total/NA	Solid	8021B	15018
LCS 880-15018/1-A	Lab Control Sample	Total/NA	Solid	8021B	15018
LCSD 880-15018/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	15018
880-9404-A-21-E MS	Matrix Spike	Total/NA	Solid	8021B	15018
880-9404-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	15018

Analysis Batch: 15276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1725-1	SW05	Total/NA	Solid	Total BTEX	
890-1725-2	SW06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 15090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1725-1	SW05	Total/NA	Solid	8015NM Prep	
890-1725-2	SW06	Total/NA	Solid	8015NM Prep	
MB 880-15090/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15090/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-15090/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1727-A-21-I MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1727-A-21-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 15096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1725-1	SW05	Total/NA	Solid	8015B NM	15090
890-1725-2	SW06	Total/NA	Solid	8015B NM	15090
MB 880-15090/1-A	Method Blank	Total/NA	Solid	8015B NM	15090
LCS 880-15090/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15090
LCSD 880-15090/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15090
890-1727-A-21-I MS	Matrix Spike	Total/NA	Solid	8015B NM	15090
890-1727-A-21-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	15090

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

GC Semi VOA

Prep Batch: 15229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-15229/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15229/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-15229/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-9504-A-1-K MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-9504-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 15231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-15229/1-A	Method Blank	Total/NA	Solid	8015B NM	15229
LCS 880-15229/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15229
LCSD 880-15229/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15229
880-9504-A-1-K MS	Matrix Spike	Total/NA	Solid	8015B NM	15229
880-9504-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	15229

Analysis Batch: 15468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1725-1	SW05	Total/NA	Solid	8015 NM	
890-1725-2	SW06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 15089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1725-1	SW05	Soluble	Solid	DI Leach	
890-1725-2	SW06	Soluble	Solid	DI Leach	
MB 880-15089/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15089/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15089/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1723-A-4-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1723-A-4-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 15128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1725-1	SW05	Soluble	Solid	300.0	15089
890-1725-2	SW06	Soluble	Solid	300.0	15089
MB 880-15089/1-A	Method Blank	Soluble	Solid	300.0	15089
LCS 880-15089/2-A	Lab Control Sample	Soluble	Solid	300.0	15089
LCSD 880-15089/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15089
890-1723-A-4-E MS	Matrix Spike	Soluble	Solid	300.0	15089
890-1723-A-4-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15089

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1725-1
SDG: 31403360.006

Client Sample ID: SW05
Date Collected: 12/15/21 09:40
Date Received: 12/15/21 15:54

Lab Sample ID: 890-1725-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	15018	12/17/21 15:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	15044	12/18/21 03:36	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15276	12/21/21 14:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			15468	12/23/21 12:30	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	15090	12/17/21 14:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			15096	12/20/21 15:58	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	15089	12/17/21 14:11	CA	XEN MID
Soluble	Analysis	300.0		1			15128	12/20/21 15:46	CH	XEN MID

Client Sample ID: SW06
Date Collected: 12/14/21 09:50
Date Received: 12/15/21 15:54

Lab Sample ID: 890-1725-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	15018	12/17/21 15:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	15044	12/18/21 03:56	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15276	12/21/21 14:36	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			15468	12/23/21 12:30	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	15090	12/17/21 14:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			15096	12/20/21 16:18	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	15089	12/17/21 14:11	CA	XEN MID
Soluble	Analysis	300.0		1			15128	12/20/21 12:55	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 17-6

Job ID: 890-1725-1
SDG: 31403360.006

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 17-6

Job ID: 890-1725-1
SDG: 31403360.006

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 17-6

Job ID: 890-1725-1
SDG: 31403360.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1725-1	SW05	Solid	12/15/21 09:40	12/15/21 15:54	0 - 4
890-1725-2	SW06	Solid	12/14/21 09:50	12/15/21 15:54	0 - 4

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



Environment Testing Xenco

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

Chain of Custody

Work Order No: _____

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Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Bailey
Company Name:	WSP	Company Name:	WSP
Address:	3900 N A Street	Address:	5315 Buena Vista Dr.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88227
Phone:	(806) 794-3309	Email:	anna.bayes@wsp.com

Work Order Comments	
Program:	UST/PST ☐ PRR ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:	
Reporting:	Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables:	EDD ☐ ADAPT ☐ Other: _____

Project Name:	CDX 17-6	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number:	31403300.006	Due Date:			
Project Location:	Edley County	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Anna Bayes	Wet Ice:	☒ Yes ☐ No		
P.O. #:	MEM2019048804	Thermometer ID:	TM-003		
SAMPLE RECEIPT	Temp Blank:	Correction Factor:	-0.2		
Samples Received Intact:	Yes ☒ No ☐	Temperature Reading:	1.9		
Cooler Custody Seals:	Yes ☒ No ☐	Corrected Temperature:	1.2		
Sample Custody Seals:	Yes ☒ No ☐				
Total Containers:					



890-1725 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont											Sample Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
SWP5	S	12/15/21	9:44	0-4'	Long	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</

Cost Center: 1011137001

Total 2007 / 6010 2008 / 6020: 8RCRA 13PPM Texas T1 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		12/15/21 1425			12-15-21 1854

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1725-1

SDG Number: 31403360.006

Login Number: 1725

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: 890-1725-1

SDG Number: 31403360.006

Login Number: 1725

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

List Creation: 12/17/21 01:55 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1744-1

Laboratory Sample Delivery Group: 31403360.006

Client Project/Site: RDX 17-6

Revision: 1

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:

1/5/2022 11:07:39 AM

Jessica Kramer, Project Manager
(432)704-5440

jessica.kramer@eurofinset.com

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

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

Client: WSP USA Inc.
Project/Site: RDX 17-6

Laboratory Job ID: 890-1744-1
SDG: 31403360.006

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Qualifiers

GC VOA

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

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

Eurofins Xenco, Carlsbad

Case Narrative

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Job ID: 890-1744-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-1744-1**REVISION

The report being provided is a revision of the original report sent on 12/28/2021. The report (revision 1) is being revised due to Per client email, requesting chloride re run on SW07.

Report revision history

Receipt

The samples were received on 12/20/2021 4:59 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-15326 and analytical batch 880-15375 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) recoveries for preparation batch 880-15437 and analytical batch 880-15427 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Client Sample ID: SW07

Lab Sample ID: 890-1744-1

Date Collected: 12/16/21 09:10

Matrix: Solid

Date Received: 12/20/21 16:59

Sample Depth: 1 - 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		12/22/21 10:02	12/22/21 23:36	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/22/21 10:02	12/22/21 23:36	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		12/22/21 10:02	12/22/21 23:36	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		12/22/21 10:02	12/22/21 23:36	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		12/22/21 10:02	12/22/21 23:36	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		12/22/21 10:02	12/22/21 23:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	12/22/21 10:02	12/22/21 23:36	1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/22/21 10:02	12/22/21 23:36	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			12/28/21 08:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/28/21 17:22	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		12/22/21 09:41	12/22/21 18:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/22/21 09:41	12/22/21 18:49	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/22/21 09:41	12/22/21 18:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	12/22/21 09:41	12/22/21 18:49	1
o-Terphenyl	96		70 - 130	12/22/21 09:41	12/22/21 18:49	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	513		50.4		mg/Kg			01/03/22 17:58	10

Client Sample ID: SW08

Lab Sample ID: 890-1744-2

Date Collected: 12/16/21 09:15

Matrix: Solid

Date Received: 12/20/21 16:59

Sample Depth: 1 - 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		12/22/21 10:02	12/22/21 23:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/21 10:02	12/22/21 23:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/21 10:02	12/22/21 23:57	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/22/21 10:02	12/22/21 23:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/21 10:02	12/22/21 23:57	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/22/21 10:02	12/22/21 23:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130	12/22/21 10:02	12/22/21 23:57	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Client Sample ID: SW08

Lab Sample ID: 890-1744-2

Date Collected: 12/16/21 09:15

Matrix: Solid

Date Received: 12/20/21 16:59

Sample Depth: 1 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	85		70 - 130	12/22/21 10:02	12/22/21 23:57	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			12/28/21 08:41	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			12/28/21 17:22	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		12/22/21 09:41	12/22/21 19:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/22/21 09:41	12/22/21 19:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/22/21 09:41	12/22/21 19:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130				12/22/21 09:41	12/22/21 19:09	1
o-Terphenyl	98		70 - 130				12/22/21 09:41	12/22/21 19:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	395		25.0		mg/Kg			12/22/21 14:28	5

Client Sample ID: SW09

Lab Sample ID: 890-1744-3

Date Collected: 12/16/21 09:20

Matrix: Solid

Date Received: 12/20/21 16:59

Sample Depth: 1 - 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		12/22/21 10:02	12/23/21 00:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/21 10:02	12/23/21 00:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/21 10:02	12/23/21 00:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/21 10:02	12/23/21 00:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/21 10:02	12/23/21 00:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/21 10:02	12/23/21 00:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130	12/22/21 10:02	12/23/21 00:17	1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/22/21 10:02	12/23/21 00:17	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/28/21 08:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/28/21 17:22	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Client Sample ID: SW09

Lab Sample ID: 890-1744-3

Date Collected: 12/16/21 09:20

Matrix: Solid

Date Received: 12/20/21 16:59

Sample Depth: 1 - 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	<49.9	U	49.9		mg/Kg		12/22/21 09:41	12/22/21 19:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/22/21 09:41	12/22/21 19:30	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/22/21 09:41	12/22/21 19:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130				12/22/21 09:41	12/22/21 19:30	1
o-Terphenyl	111		70 - 130				12/22/21 09:41	12/22/21 19:30	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	102		5.03		mg/Kg			12/22/21 14:38	1

Client Sample ID: SW10

Lab Sample ID: 890-1744-4

Date Collected: 12/16/21 09:25

Matrix: Solid

Date Received: 12/20/21 16:59

Sample Depth: 1 - 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		12/23/21 12:08	12/23/21 20:30	1
Toluene	<0.00200	U *1 *+ F1	0.00200		mg/Kg		12/23/21 12:08	12/23/21 20:30	1
Ethylbenzene	<0.00200	U F1	0.00200		mg/Kg		12/23/21 12:08	12/23/21 20:30	1
m-Xylene & p-Xylene	<0.00401	U *1 *- F1	0.00401		mg/Kg		12/23/21 12:08	12/23/21 20:30	1
o-Xylene	<0.00200	U *1 *+ F1	0.00200		mg/Kg		12/23/21 12:08	12/23/21 20:30	1
Xylenes, Total	<0.00401	U *1 *+ F1	0.00401		mg/Kg		12/23/21 12:08	12/23/21 20:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130				12/23/21 12:08	12/23/21 20:30	1
1,4-Difluorobenzene (Surr)	100		70 - 130				12/23/21 12:08	12/23/21 20:30	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			12/28/21 08:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/28/21 17:22	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		12/22/21 09:41	12/22/21 19:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/22/21 09:41	12/22/21 19:51	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/22/21 09:41	12/22/21 19:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130				12/22/21 09:41	12/22/21 19:51	1
o-Terphenyl	94		70 - 130				12/22/21 09:41	12/22/21 19:51	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Client Sample ID: SW10
Date Collected: 12/16/21 09:25
Date Received: 12/20/21 16:59
Sample Depth: 1 - 4

Lab Sample ID: 890-1744-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	401		25.2		mg/Kg			12/22/21 14:48	5

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

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

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)
880-9625-A-1-A MS	Matrix Spike	142 S1+	114
880-9625-A-1-B MSD	Matrix Spike Duplicate	113	88
890-1744-1	SW07	126	93
890-1744-2	SW08	90	85
890-1744-3	SW09	79	93
890-1744-4	SW10	127	100
890-1744-4 MS	SW10	117	97
890-1744-4 MSD	SW10	141 S1+	104
LCS 880-15326/1-A	Lab Control Sample	110	96
LCS 880-15437/1-A	Lab Control Sample	626 S1+	53 S1-
LCSD 880-15326/2-A	Lab Control Sample Dup	122	100
LCSD 880-15437/2-A	Lab Control Sample Dup	113	102
MB 880-15326/5-A	Method Blank	120	96
MB 880-15437/5-A	Method Blank	122	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1743-A-1-D MS	Matrix Spike	92	87
890-1743-A-1-E MSD	Matrix Spike Duplicate	103	101
890-1744-1	SW07	99	96
890-1744-2	SW08	105	98
890-1744-3	SW09	114	111
890-1744-4	SW10	98	94

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-15317/2-A	Lab Control Sample	110	115
LCSD 880-15317/3-A	Lab Control Sample Dup	119	114
MB 880-15317/1-A	Method Blank	115	120

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-15326/5-A

Matrix: Solid

Analysis Batch: 15375

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15326

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/21 10:02	12/22/21 16:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/21 10:02	12/22/21 16:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/21 10:02	12/22/21 16:11	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/21 10:02	12/22/21 16:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/21 10:02	12/22/21 16:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/21 10:02	12/22/21 16:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	12/22/21 10:02	12/22/21 16:11	1
1,4-Difluorobenzene (Surr)	96		70 - 130	12/22/21 10:02	12/22/21 16:11	1

Lab Sample ID: LCS 880-15326/1-A

Matrix: Solid

Analysis Batch: 15375

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15326

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09590		mg/Kg		96	70 - 130
Toluene	0.100	0.09926		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.1004		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	0.200	0.1935		mg/Kg		97	70 - 130
o-Xylene	0.100	0.09323		mg/Kg		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 880-15326/2-A

Matrix: Solid

Analysis Batch: 15375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15326

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.1034		mg/Kg		103	70 - 130	8	35
Toluene	0.100	0.1048		mg/Kg		105	70 - 130	5	35
Ethylbenzene	0.100	0.1064		mg/Kg		106	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.2138		mg/Kg		107	70 - 130	10	35
o-Xylene	0.100	0.1057		mg/Kg		106	70 - 130	13	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 880-9625-A-1-A MS

Matrix: Solid

Analysis Batch: 15375

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 15326

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F1 F2	0.0998	0.06972		mg/Kg		70	70 - 130
Toluene	<0.00200	U F1	0.0998	0.07261		mg/Kg		72	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

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

Lab Sample ID: 880-9625-A-1-A MS

Matrix: Solid

Analysis Batch: 15375

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 15326

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U F1	0.0998	0.06766	F1	mg/Kg		68	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.200	0.1374	F1	mg/Kg		69	70 - 130
o-Xylene	<0.00200	U F1	0.0998	0.06888	F1	mg/Kg		69	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	142	S1+	70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 880-9625-A-1-B MSD

Matrix: Solid

Analysis Batch: 15375

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 15326

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00200	U F1 F2	0.0994	0.02127	F1 F2	mg/Kg		21	70 - 130	106	35
Toluene	<0.00200	U F1	0.0994	0.06729	F1	mg/Kg		67	70 - 130	8	35
Ethylbenzene	<0.00200	U F1	0.0994	0.06544	F1	mg/Kg		66	70 - 130	3	35
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.1259	F1	mg/Kg		63	70 - 130	9	35
o-Xylene	<0.00200	U F1	0.0994	0.05627	F1	mg/Kg		56	70 - 130	20	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

Lab Sample ID: MB 880-15437/5-A

Matrix: Solid

Analysis Batch: 15427

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/23/21 12:08	12/23/21 20:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/23/21 12:08	12/23/21 20:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/23/21 12:08	12/23/21 20:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/23/21 12:08	12/23/21 20:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/23/21 12:08	12/23/21 20:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/23/21 12:08	12/23/21 20:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	12/23/21 12:08	12/23/21 20:00	1
1,4-Difluorobenzene (Surr)	100		70 - 130	12/23/21 12:08	12/23/21 20:00	1

Lab Sample ID: LCS 880-15437/1-A

Matrix: Solid

Analysis Batch: 15427

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.06355	*-	mg/Kg		64	70 - 130
Toluene	0.100	0.2411	*+	mg/Kg		241	70 - 130
Ethylbenzene	0.100	0.1077		mg/Kg		108	70 - 130
m-Xylene & p-Xylene	0.200	0.1060	*-	mg/Kg		53	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

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

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	626	S1+	70 - 130
1,4-Difluorobenzene (Surr)	53	S1-	70 - 130

Lab Sample ID: LCSD 880-15437/2-A

Matrix: Solid

Analysis Batch: 15427

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08456		mg/Kg		85	70 - 130	28	35
Toluene	0.100	0.09326	*1	mg/Kg		93	70 - 130	88	35
Ethylbenzene	0.100	0.1004		mg/Kg		100	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.1964	*1	mg/Kg		98	70 - 130	60	35
o-Xylene	0.100	0.09728	*1	mg/Kg		97	70 - 130	123	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-1744-4 MS

Matrix: Solid

Analysis Batch: 15427

Client Sample ID: SW10

Prep Type: Total/NA

Prep Batch: 15437

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U *-	0.0998	0.07463		mg/Kg		75	70 - 130		
Toluene	<0.00200	U *1 *+ F1	0.0998	0.06904	F1	mg/Kg		69	70 - 130		
Ethylbenzene	<0.00200	U F1	0.0998	0.05768	F1	mg/Kg		58	70 - 130		
m-Xylene & p-Xylene	<0.00401	U *1 *- F1	0.200	0.1137	F1	mg/Kg		57	70 - 130		
o-Xylene	<0.00200	U *1 *+ F1	0.0998	0.06154	F1	mg/Kg		62	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-1744-4 MSD

Matrix: Solid

Analysis Batch: 15427

Client Sample ID: SW10

Prep Type: Total/NA

Prep Batch: 15437

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U *-	0.0994	0.08482		mg/Kg		85	70 - 130	13	35
Toluene	<0.00200	U *1 *+ F1	0.0994	0.08707		mg/Kg		87	70 - 130	23	35
Ethylbenzene	<0.00200	U F1	0.0994	0.08127		mg/Kg		82	70 - 130	34	35
m-Xylene & p-Xylene	<0.00401	U *1 *- F1	0.199	0.1553		mg/Kg		78	70 - 130	31	35
o-Xylene	<0.00200	U *1 *+ F1	0.0994	0.07869		mg/Kg		79	70 - 130	24	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

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

Lab Sample ID: MB 880-15317/1-A

Matrix: Solid

Analysis Batch: 15328

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15317

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		12/22/21 09:41	12/22/21 11:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/22/21 09:41	12/22/21 11:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/22/21 09:41	12/22/21 11:15	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130				12/22/21 09:41	12/22/21 11:15	1
o-Terphenyl	120		70 - 130				12/22/21 09:41	12/22/21 11:15	1

Lab Sample ID: LCS 880-15317/2-A

Matrix: Solid

Analysis Batch: 15328

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15317

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	791.8		mg/Kg		79	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1008		mg/Kg		101	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	110		70 - 130				
o-Terphenyl	115		70 - 130				

Lab Sample ID: LCSD 880-15317/3-A

Matrix: Solid

Analysis Batch: 15328

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15317

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	869.0		mg/Kg		87	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	1000	1036		mg/Kg		104	70 - 130	3	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	119		70 - 130						
o-Terphenyl	114		70 - 130						

Lab Sample ID: 890-1743-A-1-D MS

Matrix: Solid

Analysis Batch: 15328

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 15317

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	1031		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	126		996	1014		mg/Kg		89	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

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

Lab Sample ID: 890-1743-A-1-D MS

Matrix: Solid

Analysis Batch: 15328

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 15317

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 890-1743-A-1-E MSD

Matrix: Solid

Analysis Batch: 15328

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 15317

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	995	1002		mg/Kg		98	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	126		995	1192		mg/Kg		107	70 - 130	16	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	101		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15278/1-A

Matrix: Solid

Analysis Batch: 15401

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			12/22/21 10:00	1

Lab Sample ID: LCS 880-15278/2-A

Matrix: Solid

Analysis Batch: 15401

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	253.5		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-15278/3-A

Matrix: Solid

Analysis Batch: 15401

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	247.8		mg/Kg		99	90 - 110	2	20

Lab Sample ID: 890-1740-A-3-B MS

Matrix: Solid

Analysis Batch: 15401

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	318		1260	1571		mg/Kg		100	90 - 110

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1740-A-3-C MSD

Matrix: Solid

Analysis Batch: 15401

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	318		1260	1567		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-1743-A-4-B MS

Matrix: Solid

Analysis Batch: 15401

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	6560		2500	9222		mg/Kg		107	90 - 110		

Lab Sample ID: 890-1743-A-4-C MSD

Matrix: Solid

Analysis Batch: 15401

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	6560		2500	9214		mg/Kg		106	90 - 110	0	20

Lab Sample ID: MB 880-15521/1-A

Matrix: Solid

Analysis Batch: 15817

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			12/30/21 17:04	1

Lab Sample ID: LCS 880-15521/2-A

Matrix: Solid

Analysis Batch: 15817

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	250	250.3		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-15521/3-A

Matrix: Solid

Analysis Batch: 15817

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	250.9		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 880-9676-A-6-B MS

Matrix: Solid

Analysis Batch: 15817

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	39.7		248	313.2		mg/Kg		110	90 - 110		

Lab Sample ID: 880-9676-A-6-C MSD

Matrix: Solid

Analysis Batch: 15817

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	39.7		248	313.2		mg/Kg		110	90 - 110	0	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15705/1-A

Matrix: Solid

Analysis Batch: 15917

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			01/03/22 13:00	1

Lab Sample ID: LCS 880-15705/2-A

Matrix: Solid

Analysis Batch: 15917

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	246.7		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-15705/3-A

Matrix: Solid

Analysis Batch: 15917

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	246.6		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-1756-A-2-B MS

Matrix: Solid

Analysis Batch: 15917

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<5.04	U	252	229.9		mg/Kg		91	90 - 110

Lab Sample ID: 890-1756-A-2-C MSD

Matrix: Solid

Analysis Batch: 15917

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<5.04	U	252	230.5		mg/Kg		91	90 - 110	0	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6Job ID: 890-1744-1
SDG: 31403360.006

GC VOA

Prep Batch: 15326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Total/NA	Solid	5035	
890-1744-2	SW08	Total/NA	Solid	5035	
890-1744-3	SW09	Total/NA	Solid	5035	
MB 880-15326/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-15326/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-15326/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-9625-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-9625-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 15375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Total/NA	Solid	8021B	15326
890-1744-2	SW08	Total/NA	Solid	8021B	15326
890-1744-3	SW09	Total/NA	Solid	8021B	15326
MB 880-15326/5-A	Method Blank	Total/NA	Solid	8021B	15326
LCS 880-15326/1-A	Lab Control Sample	Total/NA	Solid	8021B	15326
LCSD 880-15326/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	15326
880-9625-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	15326
880-9625-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	15326

Analysis Batch: 15427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-4	SW10	Total/NA	Solid	8021B	15437
MB 880-15437/5-A	Method Blank	Total/NA	Solid	8021B	15437
LCS 880-15437/1-A	Lab Control Sample	Total/NA	Solid	8021B	15437
LCSD 880-15437/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	15437
890-1744-4 MS	SW10	Total/NA	Solid	8021B	15437
890-1744-4 MSD	SW10	Total/NA	Solid	8021B	15437

Prep Batch: 15437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-4	SW10	Total/NA	Solid	5035	
MB 880-15437/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-15437/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-15437/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1744-4 MS	SW10	Total/NA	Solid	5035	
890-1744-4 MSD	SW10	Total/NA	Solid	5035	

Analysis Batch: 15505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Total/NA	Solid	Total BTEX	
890-1744-2	SW08	Total/NA	Solid	Total BTEX	
890-1744-3	SW09	Total/NA	Solid	Total BTEX	
890-1744-4	SW10	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 15317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Total/NA	Solid	8015NM Prep	
890-1744-2	SW08	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

GC Semi VOA (Continued)

Prep Batch: 15317 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-3	SW09	Total/NA	Solid	8015NM Prep	
890-1744-4	SW10	Total/NA	Solid	8015NM Prep	
MB 880-15317/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15317/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-15317/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1743-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1743-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 15328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Total/NA	Solid	8015B NM	15317
890-1744-2	SW08	Total/NA	Solid	8015B NM	15317
890-1744-3	SW09	Total/NA	Solid	8015B NM	15317
890-1744-4	SW10	Total/NA	Solid	8015B NM	15317
MB 880-15317/1-A	Method Blank	Total/NA	Solid	8015B NM	15317
LCS 880-15317/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15317
LCSD 880-15317/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15317
890-1743-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	15317
890-1743-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	15317

Analysis Batch: 15674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Total/NA	Solid	8015 NM	
890-1744-2	SW08	Total/NA	Solid	8015 NM	
890-1744-3	SW09	Total/NA	Solid	8015 NM	
890-1744-4	SW10	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 15278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Soluble	Solid	DI Leach	
890-1744-2	SW08	Soluble	Solid	DI Leach	
890-1744-3	SW09	Soluble	Solid	DI Leach	
890-1744-4	SW10	Soluble	Solid	DI Leach	
MB 880-15278/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15278/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15278/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1740-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1740-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-1743-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1743-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 15401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Soluble	Solid	300.0	15278
890-1744-2	SW08	Soluble	Solid	300.0	15278
890-1744-3	SW09	Soluble	Solid	300.0	15278
890-1744-4	SW10	Soluble	Solid	300.0	15278
MB 880-15278/1-A	Method Blank	Soluble	Solid	300.0	15278
LCS 880-15278/2-A	Lab Control Sample	Soluble	Solid	300.0	15278

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

HPLC/IC (Continued)

Analysis Batch: 15401 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-15278/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15278
890-1740-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	15278
890-1740-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15278
890-1743-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	15278
890-1743-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15278

Leach Batch: 15521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Soluble	Solid	DI Leach	
MB 880-15521/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15521/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15521/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-9676-A-6-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-9676-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 15705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Soluble	Solid	DI Leach	
MB 880-15705/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15705/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15705/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1756-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1756-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 15817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Soluble	Solid	300.0	15521
MB 880-15521/1-A	Method Blank	Soluble	Solid	300.0	15521
LCS 880-15521/2-A	Lab Control Sample	Soluble	Solid	300.0	15521
LCSD 880-15521/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15521
880-9676-A-6-B MS	Matrix Spike	Soluble	Solid	300.0	15521
880-9676-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15521

Analysis Batch: 15917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1744-1	SW07	Soluble	Solid	300.0	15705
MB 880-15705/1-A	Method Blank	Soluble	Solid	300.0	15705
LCS 880-15705/2-A	Lab Control Sample	Soluble	Solid	300.0	15705
LCSD 880-15705/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15705
890-1756-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	15705
890-1756-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15705

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Client Sample ID: SW07

Lab Sample ID: 890-1744-1

Date Collected: 12/16/21 09:10

Matrix: Solid

Date Received: 12/20/21 16:59

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	15326	12/22/21 10:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	15375	12/22/21 23:36	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			15505	12/28/21 08:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	15317	12/22/21 09:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1			15328	12/22/21 18:49	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		10			15401	12/22/21 14:18	SC	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	15521	12/24/21 19:56	SC	XEN MID
Soluble	Analysis	300.0		10			15817	12/30/21 18:38	CH	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	15705	12/29/21 08:46	CH	XEN MID
Soluble	Analysis	300.0		10			15917	01/03/22 17:58	CH	XEN MID

Client Sample ID: SW08

Lab Sample ID: 890-1744-2

Date Collected: 12/16/21 09:15

Matrix: Solid

Date Received: 12/20/21 16:59

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	15326	12/22/21 10:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	15375	12/22/21 23:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			15505	12/28/21 08:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	15317	12/22/21 09:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1			15328	12/22/21 19:09	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		5			15401	12/22/21 14:28	SC	XEN MID

Client Sample ID: SW09

Lab Sample ID: 890-1744-3

Date Collected: 12/16/21 09:20

Matrix: Solid

Date Received: 12/20/21 16:59

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	15326	12/22/21 10:02	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	15375	12/23/21 00:17	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			15505	12/28/21 08:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	15317	12/22/21 09:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1			15328	12/22/21 19:30	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		1			15401	12/22/21 14:38	SC	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Client Sample ID: SW10
Date Collected: 12/16/21 09:25
Date Received: 12/20/21 16:59

Lab Sample ID: 890-1744-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	15437	12/23/21 12:08	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	15427	12/23/21 20:30	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			15505	12/28/21 08:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	15317	12/22/21 09:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1			15328	12/22/21 19:51	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		5			15401	12/22/21 14:48	SC	XEN MID

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

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 17-6

Job ID: 890-1744-1
SDG: 31403360.006

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Eurofins Xenco, Carlsbad

Sample Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1744-1
SDG: 31403360.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1744-1	SW07	Solid	12/16/21 09:10	12/20/21 16:59	1 - 4
890-1744-2	SW08	Solid	12/16/21 09:15	12/20/21 16:59	1 - 4
890-1744-3	SW09	Solid	12/16/21 09:20	12/20/21 16:59	1 - 4
890-1744-4	SW10	Solid	12/16/21 09:25	12/20/21 16:59	1 - 4

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



Chain of Custody

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

Environment Testing

Xenco

Work Order No:

Page 1 of 1

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

Project Manager:	Joseph Hernandez	Bill to: (if different)	Tim Raley
Company Name:	WSP USA	Company Name:	WPX
Address:	3300 N A Street	Address:	5315 Buena Vista Dr.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(781) 792-2329	Email:	anna.buys@wsp.com

[illegible][illegible]

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. The signature of the client authorizes Eurofins Xenco to collect samples and analyze them at its discretion without further notice. If the client wishes to cancel the agreement, it must notify Eurofins Xenco in writing within 30 days of the date of signing. If the client fails to do so, Eurofins Xenco may proceed with the analysis and the client will be liable for the cost of the analysis. This agreement shall remain in effect until the client notifies Eurofins Xenco in writing that it has been terminated.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Nigel	[Signature]	26/07/21	4:59		
3						

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1744-1

SDG Number: 31403360.006

Login Number: 1744

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: 890-1744-1

SDG Number: 31403360.006

Login Number: 1744

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Xenco, Midland

List Creation: 12/21/21 02:08 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1807-1

Laboratory Sample Delivery Group: 31403360.006

Client Project/Site: RDX 17-6

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:
1/14/2022 2:21:49 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 17-6

Laboratory Job ID: 890-1807-1
SDG: 31403360.006

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
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 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Job ID: 890-1807-1

Laboratory: Eurofins Carlsbad

Narrative	
	Job Narrative 890-1807-1

Receipt

The samples were received on 1/6/2022 2:27 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA

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

GC Semi VOA

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-16432 and 880-16432 and analytical batch 880-16543 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 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Client Sample ID: SW11

Lab Sample ID: 890-1807-1

Date Collected: 01/06/22 11:15

Matrix: Solid

Date Received: 01/06/22 14:27

Sample Depth: 0 - 4

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		01/07/22 08:00	01/07/22 20:11	1
Toluene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 20:11	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 20:11	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		01/07/22 08:00	01/07/22 20:11	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 20:11	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		01/07/22 08:00	01/07/22 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	01/07/22 08:00	01/07/22 20:11	1
1,4-Difluorobenzene (Surr)	95		70 - 130	01/07/22 08:00	01/07/22 20:11	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			01/12/22 12:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/11/22 14:19	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		01/07/22 15:29	01/09/22 01:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/07/22 15:29	01/09/22 01:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/07/22 15:29	01/09/22 01:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	01/07/22 15:29	01/09/22 01:20	1
o-Terphenyl	107		70 - 130	01/07/22 15:29	01/09/22 01:20	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	214		4.97		mg/Kg			01/13/22 23:15	1

Client Sample ID: SW12

Lab Sample ID: 890-1807-2

Date Collected: 01/06/22 11:20

Matrix: Solid

Date Received: 01/06/22 14:27

Sample Depth: 0 - 4

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		01/07/22 08:00	01/07/22 20:31	1
Toluene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 20:31	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 20:31	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		01/07/22 08:00	01/07/22 20:31	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 20:31	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		01/07/22 08:00	01/07/22 20:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	01/07/22 08:00	01/07/22 20:31	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Client Sample ID: SW12

Lab Sample ID: 890-1807-2

Date Collected: 01/06/22 11:20

Matrix: Solid

Date Received: 01/06/22 14:27

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	94		70 - 130	01/07/22 08:00	01/07/22 20:31	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			01/12/22 12:57	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			01/11/22 14:19	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		01/07/22 15:29	01/09/22 01:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/09/22 01:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/09/22 01:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	73		70 - 130				01/07/22 15:29	01/09/22 01:40	1
o-Terphenyl	84		70 - 130				01/07/22 15:29	01/09/22 01:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	234		4.95		mg/Kg			01/13/22 23:26	1

Client Sample ID: SW13

Lab Sample ID: 890-1807-3

Date Collected: 01/06/22 11:25

Matrix: Solid

Date Received: 01/06/22 14:27

Sample Depth: 0 - 4

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		01/07/22 08:00	01/07/22 20:52	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 20:52	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 20:52	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/07/22 08:00	01/07/22 20:52	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 20:52	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/07/22 08:00	01/07/22 20:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	01/07/22 08:00	01/07/22 20:52	1
1,4-Difluorobenzene (Surr)	102		70 - 130	01/07/22 08:00	01/07/22 20:52	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			01/12/22 12:57	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			01/11/22 14:19	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Client Sample ID: SW13

Lab Sample ID: 890-1807-3

Date Collected: 01/06/22 11:25

Matrix: Solid

Date Received: 01/06/22 14:27

Sample Depth: 0 - 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	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/09/22 02:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/09/22 02:00	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/09/22 02:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	77		70 - 130				01/07/22 15:29	01/09/22 02:00	1
o-Terphenyl	90		70 - 130				01/07/22 15:29	01/09/22 02:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	278	F1	5.00		mg/Kg			01/13/22 23:32	1

Client Sample ID: SW14

Lab Sample ID: 890-1807-4

Date Collected: 01/06/22 11:30

Matrix: Solid

Date Received: 01/06/22 14:27

Sample Depth: 0 - 4

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		01/07/22 08:00	01/07/22 21:12	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 21:12	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 21:12	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/07/22 08:00	01/07/22 21:12	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 21:12	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/07/22 08:00	01/07/22 21:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130				01/07/22 08:00	01/07/22 21:12	1
1,4-Difluorobenzene (Surr)	93		70 - 130				01/07/22 08:00	01/07/22 21:12	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			01/12/22 12:57	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			01/11/22 14:19	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		01/07/22 15:29	01/09/22 02:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/09/22 02:20	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/09/22 02:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	77		70 - 130				01/07/22 15:29	01/09/22 02:20	1
o-Terphenyl	89		70 - 130				01/07/22 15:29	01/09/22 02:20	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Client Sample ID: SW14

Lab Sample ID: 890-1807-4

Date Collected: 01/06/22 11:30

Matrix: Solid

Date Received: 01/06/22 14:27

Sample Depth: 0 - 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	247		4.99		mg/Kg			01/13/22 23:51	1

Client Sample ID: SW15

Lab Sample ID: 890-1807-5

Date Collected: 01/06/22 11:35

Matrix: Solid

Date Received: 01/06/22 14:27

Sample Depth: 0 - 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		01/07/22 08:00	01/07/22 21:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/07/22 08:00	01/07/22 21:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/07/22 08:00	01/07/22 21:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/07/22 08:00	01/07/22 21:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/07/22 08:00	01/07/22 21:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/07/22 08:00	01/07/22 21:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130				01/07/22 08:00	01/07/22 21:33	1
1,4-Difluorobenzene (Surr)	109		70 - 130				01/07/22 08:00	01/07/22 21:33	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/12/22 12:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/11/22 14:19	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		01/07/22 15:29	01/09/22 02:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/07/22 15:29	01/09/22 02:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/07/22 15:29	01/09/22 02:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130				01/07/22 15:29	01/09/22 02:41	1
o-Terphenyl	95		70 - 130				01/07/22 15:29	01/09/22 02:41	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	431		49.5		mg/Kg			01/13/22 23:57	10

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Client Sample ID: SW16

Lab Sample ID: 890-1807-6

Date Collected: 01/06/22 11:40

Matrix: Solid

Date Received: 01/06/22 14:27

Sample Depth: 0 - 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		01/07/22 08:00	01/07/22 21:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 21:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 21:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/07/22 08:00	01/07/22 21:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 21:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/07/22 08:00	01/07/22 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	01/07/22 08:00	01/07/22 21:53	1
1,4-Difluorobenzene (Surr)	100		70 - 130	01/07/22 08:00	01/07/22 21:53	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/12/22 12:57	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			01/11/22 14:19	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		01/07/22 15:29	01/08/22 22:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/08/22 22:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/08/22 22:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130	01/07/22 15:29	01/08/22 22:37	1
o-Terphenyl	78		70 - 130	01/07/22 15:29	01/08/22 22:37	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	387		50.0		mg/Kg			01/14/22 00:22	10

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Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

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)
890-1805-A-1-A MS	Matrix Spike	111	100
890-1805-A-1-B MSD	Matrix Spike Duplicate	104	95
890-1807-1	SW11	103	95
890-1807-2	SW12	111	94
890-1807-3	SW13	107	102
890-1807-4	SW14	109	93
890-1807-5	SW15	122	109
890-1807-6	SW16	119	100
LCS 880-16163/1-A	Lab Control Sample	108	98
LCSD 880-16163/2-A	Lab Control Sample Dup	107	93
MB 880-16163/5-A	Method Blank	120	100
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-9971-A-1-D MS	Matrix Spike	86	84
880-9971-A-1-E MSD	Matrix Spike Duplicate	82	84
890-1807-1	SW11	91	107
890-1807-2	SW12	73	84
890-1807-3	SW13	77	90
890-1807-4	SW14	77	89
890-1807-5	SW15	78	95
890-1807-6	SW16	74	78
LCS 880-16295/2-A	Lab Control Sample	101	107
LCSD 880-16295/3-A	Lab Control Sample Dup	112	116
MB 880-16295/1-A	Method Blank	78	90
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-16163/5-A

Matrix: Solid

Analysis Batch: 16202

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16163

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/07/22 08:00	01/07/22 11:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	01/07/22 08:00	01/07/22 11:30	1
1,4-Difluorobenzene (Surr)	100		70 - 130	01/07/22 08:00	01/07/22 11:30	1

Lab Sample ID: LCS 880-16163/1-A

Matrix: Solid

Analysis Batch: 16202

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16163

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09195		mg/Kg		92	70 - 130
Toluene	0.100	0.09439		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.1051		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.1991		mg/Kg		100	70 - 130
o-Xylene	0.100	0.09446		mg/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-16163/2-A

Matrix: Solid

Analysis Batch: 16202

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16163

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09529		mg/Kg		95	70 - 130	4	35
Toluene	0.100	0.1011		mg/Kg		101	70 - 130	7	35
Ethylbenzene	0.100	0.1017		mg/Kg		102	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1942		mg/Kg		97	70 - 130	2	35
o-Xylene	0.100	0.1003		mg/Kg		100	70 - 130	6	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

Lab Sample ID: 890-1805-A-1-B MSD

Matrix: Solid

Analysis Batch: 16202

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16163

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.09925		mg/Kg					
Toluene	<0.00201	U	0.100	0.1053		mg/Kg					

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

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

Lab Sample ID: 890-1805-A-1-B MSD

Matrix: Solid

Analysis Batch: 16202

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16163

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00201	U	0.100	0.1019		mg/Kg					
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1981		mg/Kg					
o-Xylene	<0.00201	U	0.100	0.09328		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 890-1805-A-1-A MS

Matrix: Solid

Analysis Batch: 16202

Client Sample ID: Matrix Spike

Prep Type: Total/NA

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

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

Lab Sample ID: MB 880-16295/1-A

Matrix: Solid

Analysis Batch: 16324

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16295

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		01/07/22 15:29	01/08/22 22:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/08/22 22:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:29	01/08/22 22:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130	01/07/22 15:29	01/08/22 22:37	1
o-Terphenyl	90		70 - 130	01/07/22 15:29	01/08/22 22:37	1

Lab Sample ID: LCS 880-16295/2-A

Matrix: Solid

Analysis Batch: 16324

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16295

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	785.8		mg/Kg		79	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1097		mg/Kg		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	107		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

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

Lab Sample ID: LCSD 880-16295/3-A

Matrix: Solid

Analysis Batch: 16324

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16295

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	922.7		mg/Kg		92	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	1000	1239		mg/Kg		124	70 - 130	12	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	112		70 - 130						
o-Terphenyl	116		70 - 130						

Lab Sample ID: 880-9971-A-1-D MS

Matrix: Solid

Analysis Batch: 16324

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16295

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	917.2		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	1140		mg/Kg		114	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	86		70 - 130								
o-Terphenyl	84		70 - 130								

Lab Sample ID: 880-9971-A-1-E MSD

Matrix: Solid

Analysis Batch: 16324

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16295

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	864.2		mg/Kg		87	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1142		mg/Kg		114	70 - 130	0	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	82		70 - 130								
o-Terphenyl	84		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-16432/1-A

Matrix: Solid

Analysis Batch: 16543

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			01/13/22 21:45	1

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-16432/2-A
Matrix: Solid
Analysis Batch: 16543

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	264.9		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-16432/3-A
Matrix: Solid
Analysis Batch: 16543

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	270.8		mg/Kg		108	90 - 110	2	20

Lab Sample ID: 890-1807-3 MS
Matrix: Solid
Analysis Batch: 16543

Client Sample ID: SW13
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	278	F1	250	567.3	F1	mg/Kg		116	90 - 110

Lab Sample ID: 890-1807-3 MSD
Matrix: Solid
Analysis Batch: 16543

Client Sample ID: SW13
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	278	F1	250	567.6	F1	mg/Kg		116	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

GC VOA

Prep Batch: 16163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-1	SW11	Total/NA	Solid	5035	
890-1807-2	SW12	Total/NA	Solid	5035	
890-1807-3	SW13	Total/NA	Solid	5035	
890-1807-4	SW14	Total/NA	Solid	5035	
890-1807-5	SW15	Total/NA	Solid	5035	
890-1807-6	SW16	Total/NA	Solid	5035	
MB 880-16163/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16163/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16163/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1805-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 16202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-1	SW11	Total/NA	Solid	8021B	16163
890-1807-2	SW12	Total/NA	Solid	8021B	16163
890-1807-3	SW13	Total/NA	Solid	8021B	16163
890-1807-4	SW14	Total/NA	Solid	8021B	16163
890-1807-5	SW15	Total/NA	Solid	8021B	16163
890-1807-6	SW16	Total/NA	Solid	8021B	16163
MB 880-16163/5-A	Method Blank	Total/NA	Solid	8021B	16163
LCS 880-16163/1-A	Lab Control Sample	Total/NA	Solid	8021B	16163
LCSD 880-16163/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16163
890-1805-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	
890-1805-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	16163

Analysis Batch: 16668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-1	SW11	Total/NA	Solid	Total BTEX	
890-1807-2	SW12	Total/NA	Solid	Total BTEX	
890-1807-3	SW13	Total/NA	Solid	Total BTEX	
890-1807-4	SW14	Total/NA	Solid	Total BTEX	
890-1807-5	SW15	Total/NA	Solid	Total BTEX	
890-1807-6	SW16	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 16295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-1	SW11	Total/NA	Solid	8015NM Prep	
890-1807-2	SW12	Total/NA	Solid	8015NM Prep	
890-1807-3	SW13	Total/NA	Solid	8015NM Prep	
890-1807-4	SW14	Total/NA	Solid	8015NM Prep	
890-1807-5	SW15	Total/NA	Solid	8015NM Prep	
890-1807-6	SW16	Total/NA	Solid	8015NM Prep	
MB 880-16295/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16295/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16295/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-9971-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-9971-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

GC Semi VOA

Analysis Batch: 16324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-1	SW11	Total/NA	Solid	8015B NM	16295
890-1807-2	SW12	Total/NA	Solid	8015B NM	16295
890-1807-3	SW13	Total/NA	Solid	8015B NM	16295
890-1807-4	SW14	Total/NA	Solid	8015B NM	16295
890-1807-5	SW15	Total/NA	Solid	8015B NM	16295
MB 880-16295/1-A	Method Blank	Total/NA	Solid	8015B NM	16295
LCS 880-16295/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16295
LCSD 880-16295/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16295
880-9971-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	16295
880-9971-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	16295

Analysis Batch: 16326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-6	SW16	Total/NA	Solid	8015B NM	16295

Analysis Batch: 16554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-1	SW11	Total/NA	Solid	8015 NM	
890-1807-2	SW12	Total/NA	Solid	8015 NM	
890-1807-3	SW13	Total/NA	Solid	8015 NM	
890-1807-4	SW14	Total/NA	Solid	8015 NM	
890-1807-5	SW15	Total/NA	Solid	8015 NM	
890-1807-6	SW16	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 16432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-1	SW11	Soluble	Solid	DI Leach	
890-1807-2	SW12	Soluble	Solid	DI Leach	
890-1807-3	SW13	Soluble	Solid	DI Leach	
890-1807-4	SW14	Soluble	Solid	DI Leach	
890-1807-5	SW15	Soluble	Solid	DI Leach	
890-1807-6	SW16	Soluble	Solid	DI Leach	
MB 880-16432/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-16432/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-16432/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1807-3 MS	SW13	Soluble	Solid	DI Leach	
890-1807-3 MSD	SW13	Soluble	Solid	DI Leach	

Analysis Batch: 16543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-1	SW11	Soluble	Solid	300.0	16432
890-1807-2	SW12	Soluble	Solid	300.0	16432
890-1807-3	SW13	Soluble	Solid	300.0	16432
890-1807-4	SW14	Soluble	Solid	300.0	16432
890-1807-5	SW15	Soluble	Solid	300.0	16432
890-1807-6	SW16	Soluble	Solid	300.0	16432
MB 880-16432/1-A	Method Blank	Soluble	Solid	300.0	16432
LCS 880-16432/2-A	Lab Control Sample	Soluble	Solid	300.0	16432
LCSD 880-16432/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	16432

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

HPLC/IC (Continued)

Analysis Batch: 16543 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1807-3 MS	SW13	Soluble	Solid	300.0	16432
890-1807-3 MSD	SW13	Soluble	Solid	300.0	16432

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

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Client Sample ID: SW11

Lab Sample ID: 890-1807-1

Date Collected: 01/06/22 11:15

Matrix: Solid

Date Received: 01/06/22 14:27

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	16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16202	01/07/22 20:11	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 12:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/11/22 14:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	16295	01/07/22 15:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16324	01/09/22 01:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	16432	01/10/22 13:08	CH	XEN MID
Soluble	Analysis	300.0		1			16543	01/13/22 23:15	CH	XEN MID

Client Sample ID: SW12

Lab Sample ID: 890-1807-2

Date Collected: 01/06/22 11:20

Matrix: Solid

Date Received: 01/06/22 14:27

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	16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16202	01/07/22 20:31	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 12:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/11/22 14:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16295	01/07/22 15:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16324	01/09/22 01:40	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	16432	01/10/22 13:08	CH	XEN MID
Soluble	Analysis	300.0		1			16543	01/13/22 23:26	CH	XEN MID

Client Sample ID: SW13

Lab Sample ID: 890-1807-3

Date Collected: 01/06/22 11:25

Matrix: Solid

Date Received: 01/06/22 14:27

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	16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16202	01/07/22 20:52	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 12:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/11/22 14:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16295	01/07/22 15:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16324	01/09/22 02:00	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	16432	01/10/22 13:08	CH	XEN MID
Soluble	Analysis	300.0		1			16543	01/13/22 23:32	CH	XEN MID

Client Sample ID: SW14

Lab Sample ID: 890-1807-4

Date Collected: 01/06/22 11:30

Matrix: Solid

Date Received: 01/06/22 14:27

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	16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16202	01/07/22 21:12	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 12:57	AJ	XEN MID

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Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Client Sample ID: SW14

Lab Sample ID: 890-1807-4

Date Collected: 01/06/22 11:30

Matrix: Solid

Date Received: 01/06/22 14:27

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			16554	01/11/22 14:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16295	01/07/22 15:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16324	01/09/22 02:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	16432	01/10/22 13:08	CH	XEN MID
Soluble	Analysis	300.0		1			16543	01/13/22 23:51	CH	XEN MID

Client Sample ID: SW15

Lab Sample ID: 890-1807-5

Date Collected: 01/06/22 11:35

Matrix: Solid

Date Received: 01/06/22 14:27

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	16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16202	01/07/22 21:33	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 12:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/11/22 14:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	16295	01/07/22 15:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16324	01/09/22 02:41	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	16432	01/10/22 13:08	CH	XEN MID
Soluble	Analysis	300.0		10			16543	01/13/22 23:57	CH	XEN MID

Client Sample ID: SW16

Lab Sample ID: 890-1807-6

Date Collected: 01/06/22 11:40

Matrix: Solid

Date Received: 01/06/22 14:27

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	16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16202	01/07/22 21:53	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 12:57	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/11/22 14:19	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16295	01/07/22 15:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 22:37	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	16432	01/10/22 13:08	CH	XEN MID
Soluble	Analysis	300.0		10			16543	01/14/22 00:22	CH	XEN MID

Laboratory References:

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

Eurofins Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Laboratory: Eurofins Midland

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

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

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

Sample Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1807-1
SDG: 31403360.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1807-1	SW11	Solid	01/06/22 11:15	01/06/22 14:27	0 - 4
890-1807-2	SW12	Solid	01/06/22 11:20	01/06/22 14:27	0 - 4
890-1807-3	SW13	Solid	01/06/22 11:25	01/06/22 14:27	0 - 4
890-1807-4	SW14	Solid	01/06/22 11:30	01/06/22 14:27	0 - 4
890-1807-5	SW15	Solid	01/06/22 11:35	01/06/22 14:27	0 - 4
890-1807-6	SW16	Solid	01/06/22 11:40	01/06/22 14:27	0 - 4

- 1
- 2
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- 14



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) 585-4443 Lubbock, TX (806) 794-1256 Casabad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6704

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Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Ransley
Company Name:	WSP USA	Company Name:	WPX Energy
Address:	3328 N A Street	Address:	5345 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Dallas, TX 75226
Phone:	(817) 762-2329	Email:	anna.bryant@wsp.com

Work Order Comments

Program: UST/PST ☐ PRR ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☐ ADAP ☐ Other:

ANALYSIS REQUEST										Preservative Codes			
Project Name: <u>BOX 17-6</u> Project Number: <u>31483308. A26</u> Project Location: <u>Ecology Community</u> Sampler's Name: <u>Anna Rogers</u> PO #: <u>AN0001546894</u> Quote #: <u> </u>										Turn Around ☒		MeOH: Me None: NO HNO3: HN H2SO4: H2	
Routine: ☒ Rush: Due Date:													
SAMPLE RECEIPT Temperature (°C): <u>14.1</u> Temp Blank: ☒ Yes ☐ No Received Inact: ☒ Yes ☐ No Thermometer ID: <u>TN MW-053</u> Cooler Custody Seals: Yes ☐ No ☒ N/A Correction Factor: <u>-0.2</u> Sample Custody Seals: Yes ☐ No ☒ N/A Total Containers:										Yes ☐ No ☒			
Number of Containers <u>1</u> (EPA 821 B) <u>1</u> (EPA 821 B) <u>1</u> (EPA 821 B)													
890-1807 Chain of Custody 													
TAT starts the day received by the lab. It received by 4:00pm													

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Numb	TP	BTE	cmf	Sample Comments
SW11		S	1/6/22	1115	8-4'	1				Cast Center #:
SW12				1120		1				106 113 700
SW13				1125		1				
SW14				1130		1				
SW15				1135		1				
SW16				1140		1				

Total	200.7 / 6010	200.8 / 6020:	
<i>Circle Method(s) and Metal(s) to be analyzed</i>	TCLP / SPLP 6010:	8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	1631 / 245.1 / 7470 / 7471 :Hg
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.			

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	<i>Anna Payer</i>	<i>C. De Wolf</i>	1.6.22 14:37			
3						
5						

Revised Date 02/25/19 Rev. 2019

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1807-1

SDG Number: 31403360.006

Login Number: 1807

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1807-1

SDG Number: 31403360.006

Login Number: 1807

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/07/22 12:52 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1816-1

Laboratory Sample Delivery Group: 31403360.006

Client Project/Site: RDX 17-6

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:
1/17/2022 9:41:03 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 17-6

Laboratory Job ID: 890-1816-1
SDG: 31403360.006

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Job ID: 890-1816-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-1816-1

Receipt

The samples were received on 1/11/2022 9:19 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH11 (890-1816-7) and (880-10173-A-61-C). 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

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH09 (890-1816-1) and (890-1816-A-1-F MS). Evidence of matrix interferences is not obvious.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-16761 and analytical batch 880-16927 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH09

Lab Sample ID: 890-1816-1

Date Collected: 01/10/22 13:16

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F2 F1 *1	0.00199		mg/Kg		01/13/22 07:30	01/13/22 10:56	1
Toluene	<0.00199	U F1	0.00199		mg/Kg		01/13/22 07:30	01/13/22 10:56	1
Ethylbenzene	<0.00199	U F1	0.00199		mg/Kg		01/13/22 07:30	01/13/22 10:56	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398		mg/Kg		01/13/22 07:30	01/13/22 10:56	1
o-Xylene	<0.00199	U F2 F1	0.00199		mg/Kg		01/13/22 07:30	01/13/22 10:56	1
Xylenes, Total	<0.00398	U F2 F1	0.00398		mg/Kg		01/13/22 07:30	01/13/22 10:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	01/13/22 07:30	01/13/22 10:56	1
1,4-Difluorobenzene (Surr)	115		70 - 130	01/13/22 07:30	01/13/22 10:56	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/17/22 14:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:06	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		01/12/22 14:31	01/12/22 21:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/12/22 21:46	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/12/22 21:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	66	S1-	70 - 130	01/12/22 14:31	01/12/22 21:46	1
o-Terphenyl	74		70 - 130	01/12/22 14:31	01/12/22 21:46	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2620		25.0		mg/Kg			01/16/22 00:21	5

Client Sample ID: PH09

Lab Sample ID: 890-1816-2

Date Collected: 01/10/22 13:20

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *1	0.00199		mg/Kg		01/13/22 07:30	01/13/22 11:16	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/13/22 07:30	01/13/22 11:16	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/13/22 07:30	01/13/22 11:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/13/22 07:30	01/13/22 11:16	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/13/22 07:30	01/13/22 11:16	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/13/22 07:30	01/13/22 11:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	01/13/22 07:30	01/13/22 11:16	1

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH09

Lab Sample ID: 890-1816-2

Date Collected: 01/10/22 13:20

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	105		70 - 130	01/13/22 07:30	01/13/22 11:16	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/17/22 14:41	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			01/17/22 14:06	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		01/12/22 14:31	01/12/22 22:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/12/22 22:53	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/12/22 22:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130				01/12/22 14:31	01/12/22 22:53	1
o-Terphenyl	88		70 - 130				01/12/22 14:31	01/12/22 22:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2990		25.0		mg/Kg			01/16/22 00:28	5

Client Sample ID: PH09

Lab Sample ID: 890-1816-3

Date Collected: 01/10/22 13:24

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *1	0.00200		mg/Kg		01/13/22 07:30	01/13/22 11:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 11:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 11:37	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/13/22 07:30	01/13/22 11:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 11:37	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/13/22 07:30	01/13/22 11:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130	01/13/22 07:30	01/13/22 11:37	1
1,4-Difluorobenzene (Surr)	87		70 - 130	01/13/22 07:30	01/13/22 11:37	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			01/17/22 14:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:06	1

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH09

Lab Sample ID: 890-1816-3

Date Collected: 01/10/22 13:24

Matrix: Solid

Date Received: 01/11/22 09:19

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	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/12/22 23:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/12/22 23:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/12/22 23:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130				01/12/22 14:31	01/12/22 23:13	1
o-Terphenyl	86		70 - 130				01/12/22 14:31	01/12/22 23:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3390		24.9		mg/Kg			01/16/22 00:35	5

Client Sample ID: PH10

Lab Sample ID: 890-1816-4

Date Collected: 01/10/22 13:40

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *1	0.00200		mg/Kg		01/13/22 07:30	01/13/22 11:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 11:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 11:58	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/13/22 07:30	01/13/22 11:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 11:58	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		01/13/22 07:30	01/13/22 11:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130				01/13/22 07:30	01/13/22 11:58	1
1,4-Difluorobenzene (Surr)	105		70 - 130				01/13/22 07:30	01/13/22 11:58	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/17/22 14:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:06	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		01/12/22 14:31	01/12/22 23:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/12/22 23:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/12/22 23:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130				01/12/22 14:31	01/12/22 23:32	1
o-Terphenyl	86		70 - 130				01/12/22 14:31	01/12/22 23:32	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH10

Lab Sample ID: 890-1816-4

Date Collected: 01/10/22 13:40

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	879		4.96		mg/Kg			01/16/22 00:42	1

Client Sample ID: PH10

Lab Sample ID: 890-1816-5

Date Collected: 01/10/22 13:45

Matrix: Solid

Date Received: 01/11/22 09:19

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		01/13/22 11:00	01/14/22 16:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 16:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 16:04	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/13/22 11:00	01/14/22 16:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 16:04	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		01/13/22 11:00	01/14/22 16:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130				01/13/22 11:00	01/14/22 16:04	1
1,4-Difluorobenzene (Surr)	93		70 - 130				01/13/22 11:00	01/14/22 16:04	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/17/22 14:41	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			01/17/22 14:06	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		01/12/22 14:31	01/12/22 23:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/12/22 23:53	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/12/22 23:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130				01/12/22 14:31	01/12/22 23:53	1
o-Terphenyl	90		70 - 130				01/12/22 14:31	01/12/22 23:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3970		25.2		mg/Kg			01/16/22 01:04	5

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH10

Lab Sample ID: 890-1816-6

Date Collected: 01/10/22 13:49

Matrix: Solid

Date Received: 01/11/22 09:19

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		01/13/22 11:00	01/14/22 16:24	1
Toluene	<0.00202	U	0.00202		mg/Kg		01/13/22 11:00	01/14/22 16:24	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		01/13/22 11:00	01/14/22 16:24	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		01/13/22 11:00	01/14/22 16:24	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		01/13/22 11:00	01/14/22 16:24	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		01/13/22 11:00	01/14/22 16:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130	01/13/22 11:00	01/14/22 16:24	1
1,4-Difluorobenzene (Surr)	94		70 - 130	01/13/22 11:00	01/14/22 16:24	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			01/17/22 14:41	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			01/17/22 14:06	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		01/12/22 14:31	01/13/22 00:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/13/22 00:14	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/13/22 00:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130	01/12/22 14:31	01/13/22 00:14	1
o-Terphenyl	86		70 - 130	01/12/22 14:31	01/13/22 00:14	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1510		49.7		mg/Kg			01/16/22 01:11	10

Client Sample ID: PH11

Lab Sample ID: 890-1816-7

Date Collected: 01/10/22 14:03

Matrix: Solid

Date Received: 01/11/22 09:19

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		01/13/22 11:00	01/14/22 16:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 16:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 16:45	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/13/22 11:00	01/14/22 16:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 16:45	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/13/22 11:00	01/14/22 16:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	134	S1+	70 - 130	01/13/22 11:00	01/14/22 16:45	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH11

Lab Sample ID: 890-1816-7

Date Collected: 01/10/22 14:03

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	73		70 - 130	01/13/22 11:00	01/14/22 16:45	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			01/17/22 14:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:06	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		01/12/22 14:31	01/13/22 00:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/13/22 00:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/13/22 00:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130				01/12/22 14:31	01/13/22 00:34	1
o-Terphenyl	88		70 - 130				01/12/22 14:31	01/13/22 00:34	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1580		24.8		mg/Kg			01/16/22 01:18	5

Client Sample ID: PH11

Lab Sample ID: 890-1816-8

Date Collected: 01/10/22 14:10

Matrix: Solid

Date Received: 01/11/22 09:19

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		01/13/22 11:00	01/14/22 17:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 17:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 17:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/13/22 11:00	01/14/22 17:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 17:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/13/22 11:00	01/14/22 17:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	01/13/22 11:00	01/14/22 17:05	1
1,4-Difluorobenzene (Surr)	74		70 - 130	01/13/22 11:00	01/14/22 17:05	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/17/22 14:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:06	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH11

Lab Sample ID: 890-1816-8

Date Collected: 01/10/22 14:10

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 2

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		01/12/22 14:31	01/13/22 00:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/13/22 00:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/13/22 00:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130				01/12/22 14:31	01/13/22 00:54	1
o-Terphenyl	83		70 - 130				01/12/22 14:31	01/13/22 00:54	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1760		25.1		mg/Kg			01/16/22 01:25	5

Client Sample ID: PH11

Lab Sample ID: 890-1816-9

Date Collected: 01/10/22 14:13

Matrix: Solid

Date Received: 01/11/22 09:19

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		01/13/22 11:00	01/14/22 17:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 17:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 17:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/13/22 11:00	01/14/22 17:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 17:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/13/22 11:00	01/14/22 17:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130				01/13/22 11:00	01/14/22 17:26	1
1,4-Difluorobenzene (Surr)	96		70 - 130				01/13/22 11:00	01/14/22 17:26	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/17/22 14:41	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			01/17/22 14:06	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		01/12/22 14:31	01/13/22 01:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/13/22 01:14	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/13/22 01:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	75		70 - 130				01/12/22 14:31	01/13/22 01:14	1
o-Terphenyl	83		70 - 130				01/12/22 14:31	01/13/22 01:14	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH11

Lab Sample ID: 890-1816-9

Date Collected: 01/10/22 14:13

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2630		49.9		mg/Kg			01/16/22 01:32	10

Client Sample ID: PH12

Lab Sample ID: 890-1816-10

Date Collected: 01/10/22 14:30

Matrix: Solid

Date Received: 01/11/22 09:19

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		01/13/22 11:00	01/14/22 17:46	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/13/22 11:00	01/14/22 17:46	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/13/22 11:00	01/14/22 17:46	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/13/22 11:00	01/14/22 17:46	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/13/22 11:00	01/14/22 17:46	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/13/22 11:00	01/14/22 17:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130				01/13/22 11:00	01/14/22 17:46	1
1,4-Difluorobenzene (Surr)	79		70 - 130				01/13/22 11:00	01/14/22 17:46	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			01/17/22 14:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:06	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		01/12/22 14:31	01/13/22 01:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/13/22 01:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/12/22 14:31	01/13/22 01:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130				01/12/22 14:31	01/13/22 01:34	1
o-Terphenyl	90		70 - 130				01/12/22 14:31	01/13/22 01:34	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1210		5.05		mg/Kg			01/16/22 01:39	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH12

Lab Sample ID: 890-1816-11

Date Collected: 01/10/22 14:34

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 2

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		01/13/22 11:00	01/14/22 18:06	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/13/22 11:00	01/14/22 18:06	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/13/22 11:00	01/14/22 18:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/13/22 11:00	01/14/22 18:06	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/13/22 11:00	01/14/22 18:06	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/13/22 11:00	01/14/22 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	01/13/22 11:00	01/14/22 18:06	1
1,4-Difluorobenzene (Surr)	78		70 - 130	01/13/22 11:00	01/14/22 18:06	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/17/22 14:41	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			01/17/22 14:06	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		01/12/22 14:31	01/13/22 02:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/13/22 02:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/13/22 02:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130	01/12/22 14:31	01/13/22 02:15	1
o-Terphenyl	89		70 - 130	01/12/22 14:31	01/13/22 02:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000		25.2		mg/Kg			01/16/22 02:00	5

Client Sample ID: PH12

Lab Sample ID: 890-1816-12

Date Collected: 01/10/22 14:40

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 4

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		01/13/22 11:00	01/14/22 18:27	1
Toluene	<0.00198	U	0.00198		mg/Kg		01/13/22 11:00	01/14/22 18:27	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		01/13/22 11:00	01/14/22 18:27	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		01/13/22 11:00	01/14/22 18:27	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		01/13/22 11:00	01/14/22 18:27	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		01/13/22 11:00	01/14/22 18:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	01/13/22 11:00	01/14/22 18:27	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH12

Lab Sample ID: 890-1816-12

Date Collected: 01/10/22 14:40

Matrix: Solid

Date Received: 01/11/22 09:19

Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	81		70 - 130	01/13/22 11:00	01/14/22 18:27	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			01/17/22 14:41	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			01/17/22 14:06	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		01/12/22 14:31	01/13/22 02:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/13/22 02:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/13/22 02:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	72		70 - 130				01/12/22 14:31	01/13/22 02:35	1
o-Terphenyl	81		70 - 130				01/12/22 14:31	01/13/22 02:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1790		24.9		mg/Kg			01/17/22 15:59	5

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Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

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)
880-10173-A-61-D MS	Matrix Spike	109	97
880-10173-A-61-E MSD	Matrix Spike Duplicate	106	107
890-1816-1	PH09	102	115
890-1816-1 MS	PH09	86	114
890-1816-1 MSD	PH09	133 S1+	138 S1+
890-1816-2	PH09	84	105
890-1816-3	PH09	73	87
890-1816-4	PH10	81	105
890-1816-5	PH10	113	93
890-1816-6	PH10	129	94
890-1816-7	PH11	134 S1+	73
890-1816-8	PH11	124	74
890-1816-9	PH11	129	96
890-1816-10	PH12	127	79
890-1816-11	PH12	122	78
890-1816-12	PH12	122	81
LCS 880-16655/1-A	Lab Control Sample	108	105
LCS 880-16731/1-A	Lab Control Sample	100	107
LCSD 880-16655/2-A	Lab Control Sample Dup	81	102
LCSD 880-16731/2-A	Lab Control Sample Dup	106	104
MB 880-16655/5-A	Method Blank	85	74
MB 880-16731/5-A	Method Blank	100	98
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1816-1	PH09	66 S1-	74
890-1816-1 MS	PH09	65 S1-	65 S1-
890-1816-1 MSD	PH09	76	75
890-1816-2	PH09	79	88
890-1816-3	PH09	78	86
890-1816-4	PH10	79	86
890-1816-5	PH10	80	90
890-1816-6	PH10	78	86
890-1816-7	PH11	79	88
890-1816-8	PH11	74	83
890-1816-9	PH11	75	83
890-1816-10	PH12	80	90
890-1816-11	PH12	78	89
890-1816-12	PH12	72	81
LCS 880-16679/2-A	Lab Control Sample	104	105
LCSD 880-16679/3-A	Lab Control Sample Dup	97	100
MB 880-16679/1-A	Method Blank	78	88

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Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Surrogate Legend
1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-16655/5-A

Matrix: Solid

Analysis Batch: 16697

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16655

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 10:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 10:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 10:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/13/22 07:30	01/13/22 10:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/13/22 07:30	01/13/22 10:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/13/22 07:30	01/13/22 10:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	01/13/22 07:30	01/13/22 10:28	1
1,4-Difluorobenzene (Surr)	74		70 - 130	01/13/22 07:30	01/13/22 10:28	1

Lab Sample ID: LCS 880-16655/1-A

Matrix: Solid

Analysis Batch: 16697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16655

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1148		mg/Kg		115	70 - 130
Toluene	0.100	0.1140		mg/Kg		114	70 - 130
Ethylbenzene	0.100	0.1006		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	0.200	0.2082		mg/Kg		104	70 - 130
o-Xylene	0.100	0.1034		mg/Kg		103	70 - 130

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

Lab Sample ID: LCSD 880-16655/2-A

Matrix: Solid

Analysis Batch: 16697

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16655

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.07142	*1	mg/Kg		71	70 - 130	47	35
Toluene	0.100	0.08461		mg/Kg		85	70 - 130	30	35
Ethylbenzene	0.100	0.08101		mg/Kg		81	70 - 130	22	35
m-Xylene & p-Xylene	0.200	0.1478		mg/Kg		74	70 - 130	34	35
o-Xylene	0.100	0.07332		mg/Kg		73	70 - 130	34	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	81		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-1816-1 MS

Matrix: Solid

Analysis Batch: 16697

Client Sample ID: PH09

Prep Type: Total/NA

Prep Batch: 16655

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F2 F1	0.0998	0.09088		mg/Kg		91	70 - 130

*1

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

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

Lab Sample ID: 890-1816-1 MS

Matrix: Solid

Analysis Batch: 16697

Client Sample ID: PH09

Prep Type: Total/NA

Prep Batch: 16655

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00199	U F1	0.0998	0.06928	F1	mg/Kg		69	70 - 130
Ethylbenzene	<0.00199	U F1	0.0998	0.06297	F1	mg/Kg		63	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1209	F1	mg/Kg		61	70 - 130
o-Xylene	<0.00199	U F2 F1	0.0998	0.06076	F1	mg/Kg		61	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 890-1816-1 MSD

Matrix: Solid

Analysis Batch: 16697

Client Sample ID: PH09

Prep Type: Total/NA

Prep Batch: 16655

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 *1	0.100	0.05485	F2 F1	mg/Kg		55	70 - 130	49	35
Toluene	<0.00199	U F1	0.100	0.09455		mg/Kg		94	70 - 130	31	35
Ethylbenzene	<0.00199	U F1	0.100	0.08768		mg/Kg		88	70 - 130	33	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1630		mg/Kg		81	70 - 130	30	35
o-Xylene	<0.00199	U F2 F1	0.100	0.1153	F2	mg/Kg		115	70 - 130	62	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130
1,4-Difluorobenzene (Surr)	138	S1+	70 - 130

Lab Sample ID: MB 880-16731/5-A

Matrix: Solid

Analysis Batch: 16809

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16731

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 10:36	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 10:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 10:36	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/13/22 11:00	01/14/22 10:36	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/13/22 11:00	01/14/22 10:36	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/13/22 11:00	01/14/22 10:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	01/13/22 11:00	01/14/22 10:36	1
1,4-Difluorobenzene (Surr)	98		70 - 130	01/13/22 11:00	01/14/22 10:36	1

Lab Sample ID: LCS 880-16731/1-A

Matrix: Solid

Analysis Batch: 16809

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16731

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08796		mg/Kg		88	70 - 130
Toluene	0.100	0.07568		mg/Kg		76	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

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

Lab Sample ID: LCS 880-16731/1-A

Matrix: Solid

Analysis Batch: 16809

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16731

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.07869		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	0.200	0.1620		mg/Kg		81	70 - 130
o-Xylene	0.100	0.07612		mg/Kg		76	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-16731/2-A

Matrix: Solid

Analysis Batch: 16809

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16731

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.08855		mg/Kg		89	70 - 130	1	35
Toluene	0.100	0.07522		mg/Kg		75	70 - 130	1	35
Ethylbenzene	0.100	0.07865		mg/Kg		79	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.1614		mg/Kg		81	70 - 130	0	35
o-Xylene	0.100	0.08275		mg/Kg		83	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 880-10173-A-61-D MS

Matrix: Solid

Analysis Batch: 16809

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16731

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.0996	0.09690		mg/Kg		97	70 - 130
Toluene	<0.00199	U	0.0996	0.08816		mg/Kg		87	70 - 130
Ethylbenzene	<0.00199	U	0.0996	0.09067		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1876		mg/Kg		94	70 - 130
o-Xylene	<0.00199	U	0.0996	0.09180		mg/Kg		92	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 880-10173-A-61-E MSD

Matrix: Solid

Analysis Batch: 16809

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16731

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00199	U	0.100	0.09933		mg/Kg		99	70 - 130	2	35
Toluene	<0.00199	U	0.100	0.08934		mg/Kg		88	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.100	0.09031		mg/Kg		90	70 - 130	0	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1874		mg/Kg		94	70 - 130	0	35
o-Xylene	<0.00199	U	0.100	0.09089		mg/Kg		90	70 - 130	1	35

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

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

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

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

Lab Sample ID: MB 880-16679/1-A

Matrix: Solid

Analysis Batch: 16627

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16679

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		01/12/22 14:31	01/12/22 20:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/12/22 20:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/12/22 14:31	01/12/22 20:35	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130				01/12/22 14:31	01/12/22 20:35	1
o-Terphenyl	88		70 - 130				01/12/22 14:31	01/12/22 20:35	1

Lab Sample ID: LCS 880-16679/2-A

Matrix: Solid

Analysis Batch: 16627

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16679

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	854.1		mg/Kg		85	70 - 130
Diesel Range Organics (Over C10-C28)	1000	996.3		mg/Kg		100	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	104		70 - 130				
o-Terphenyl	105		70 - 130				

Lab Sample ID: LCSD 880-16679/3-A

Matrix: Solid

Analysis Batch: 16627

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16679

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	925.9		mg/Kg		93	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	1000		mg/Kg		100	70 - 130	0	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	97		70 - 130						
o-Terphenyl	100		70 - 130						

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

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

Lab Sample ID: 890-1816-1 MS

Matrix: Solid

Analysis Batch: 16627

Client Sample ID: PH09

Prep Type: Total/NA

Prep Batch: 16679

	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	996	754.3		mg/Kg		76	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	840.3		mg/Kg		82	70 - 130		
		</									

Lab Sample ID: 890-1816-1 MSD

Matrix: Solid

Analysis Batch: 16627

Client Sample ID: PH09

Prep Type: Total/NA

Prep Batch: 16679

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	852.4		mg/Kg		85	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1009		mg/Kg		99	70 - 130	18	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	76		70 - 130								
o-Terphenyl	75		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-16761/1-A

Matrix: Solid

Analysis Batch: 16927

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			01/15/22 23:39	1

Lab Sample ID: LCS 880-16761/2-A

Matrix: Solid

Analysis Batch: 16927

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	267.8		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-16761/3-A

Matrix: Solid

Analysis Batch: 16927

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	269.6		mg/Kg		108	90 - 110	1	20

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1816-10 MS										Client Sample ID: PH12		
Matrix: Solid										Prep Type: Soluble		
Analysis Batch: 16927												
	Sample	Sample	Spike	MS	MS				%Rec.			
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits			
Chloride	1210		253	1407	4	mg/Kg		78	90 - 110			

Lab Sample ID: 890-1816-10 MSD										Client Sample ID: PH12		
Matrix: Solid										Prep Type: Soluble		
Analysis Batch: 16927												
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	1210		253	1406	4	mg/Kg		78	90 - 110	0	20	

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

GC VOA

Prep Batch: 16655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-1	PH09	Total/NA	Solid	5035	
890-1816-2	PH09	Total/NA	Solid	5035	
890-1816-3	PH09	Total/NA	Solid	5035	
890-1816-4	PH10	Total/NA	Solid	5035	
MB 880-16655/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16655/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16655/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1816-1 MS	PH09	Total/NA	Solid	5035	
890-1816-1 MSD	PH09	Total/NA	Solid	5035	

Analysis Batch: 16697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-1	PH09	Total/NA	Solid	8021B	16655
890-1816-2	PH09	Total/NA	Solid	8021B	16655
890-1816-3	PH09	Total/NA	Solid	8021B	16655
890-1816-4	PH10	Total/NA	Solid	8021B	16655
MB 880-16655/5-A	Method Blank	Total/NA	Solid	8021B	16655
LCS 880-16655/1-A	Lab Control Sample	Total/NA	Solid	8021B	16655
LCSD 880-16655/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16655
890-1816-1 MS	PH09	Total/NA	Solid	8021B	16655
890-1816-1 MSD	PH09	Total/NA	Solid	8021B	16655

Prep Batch: 16731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-5	PH10	Total/NA	Solid	5035	
890-1816-6	PH10	Total/NA	Solid	5035	
890-1816-7	PH11	Total/NA	Solid	5035	
890-1816-8	PH11	Total/NA	Solid	5035	
890-1816-9	PH11	Total/NA	Solid	5035	
890-1816-10	PH12	Total/NA	Solid	5035	
890-1816-11	PH12	Total/NA	Solid	5035	
890-1816-12	PH12	Total/NA	Solid	5035	
MB 880-16731/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16731/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16731/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-10173-A-61-D MS	Matrix Spike	Total/NA	Solid	5035	
880-10173-A-61-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 16809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-5	PH10	Total/NA	Solid	8021B	16731
890-1816-6	PH10	Total/NA	Solid	8021B	16731
890-1816-7	PH11	Total/NA	Solid	8021B	16731
890-1816-8	PH11	Total/NA	Solid	8021B	16731
890-1816-9	PH11	Total/NA	Solid	8021B	16731
890-1816-10	PH12	Total/NA	Solid	8021B	16731
890-1816-11	PH12	Total/NA	Solid	8021B	16731
890-1816-12	PH12	Total/NA	Solid	8021B	16731
MB 880-16731/5-A	Method Blank	Total/NA	Solid	8021B	16731
LCS 880-16731/1-A	Lab Control Sample	Total/NA	Solid	8021B	16731
LCSD 880-16731/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16731

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

GC VOA (Continued)

Analysis Batch: 16809 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-10173-A-61-D MS	Matrix Spike	Total/NA	Solid	8021B	16731
880-10173-A-61-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	16731

Analysis Batch: 17056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-1	PH09	Total/NA	Solid	Total BTEX	
890-1816-2	PH09	Total/NA	Solid	Total BTEX	
890-1816-3	PH09	Total/NA	Solid	Total BTEX	
890-1816-4	PH10	Total/NA	Solid	Total BTEX	
890-1816-5	PH10	Total/NA	Solid	Total BTEX	
890-1816-6	PH10	Total/NA	Solid	Total BTEX	
890-1816-7	PH11	Total/NA	Solid	Total BTEX	
890-1816-8	PH11	Total/NA	Solid	Total BTEX	
890-1816-9	PH11	Total/NA	Solid	Total BTEX	
890-1816-10	PH12	Total/NA	Solid	Total BTEX	
890-1816-11	PH12	Total/NA	Solid	Total BTEX	
890-1816-12	PH12	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 16627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-1	PH09	Total/NA	Solid	8015B NM	16679
890-1816-2	PH09	Total/NA	Solid	8015B NM	16679
890-1816-3	PH09	Total/NA	Solid	8015B NM	16679
890-1816-4	PH10	Total/NA	Solid	8015B NM	16679
890-1816-5	PH10	Total/NA	Solid	8015B NM	16679
890-1816-6	PH10	Total/NA	Solid	8015B NM	16679
890-1816-7	PH11	Total/NA	Solid	8015B NM	16679
890-1816-8	PH11	Total/NA	Solid	8015B NM	16679
890-1816-9	PH11	Total/NA	Solid	8015B NM	16679
890-1816-10	PH12	Total/NA	Solid	8015B NM	16679
890-1816-11	PH12	Total/NA	Solid	8015B NM	16679
890-1816-12	PH12	Total/NA	Solid	8015B NM	16679
MB 880-16679/1-A	Method Blank	Total/NA	Solid	8015B NM	16679
LCS 880-16679/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16679
LCSD 880-16679/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16679
890-1816-1 MS	PH09	Total/NA	Solid	8015B NM	16679
890-1816-1 MSD	PH09	Total/NA	Solid	8015B NM	16679

Prep Batch: 16679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-1	PH09	Total/NA	Solid	8015NM Prep	
890-1816-2	PH09	Total/NA	Solid	8015NM Prep	
890-1816-3	PH09	Total/NA	Solid	8015NM Prep	
890-1816-4	PH10	Total/NA	Solid	8015NM Prep	
890-1816-5	PH10	Total/NA	Solid	8015NM Prep	
890-1816-6	PH10	Total/NA	Solid	8015NM Prep	
890-1816-7	PH11	Total/NA	Solid	8015NM Prep	
890-1816-8	PH11	Total/NA	Solid	8015NM Prep	
890-1816-9	PH11	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

GC Semi VOA (Continued)

Prep Batch: 16679 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-10	PH12	Total/NA	Solid	8015NM Prep	
890-1816-11	PH12	Total/NA	Solid	8015NM Prep	
890-1816-12	PH12	Total/NA	Solid	8015NM Prep	
MB 880-16679/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16679/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16679/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1816-1 MS	PH09	Total/NA	Solid	8015NM Prep	
890-1816-1 MSD	PH09	Total/NA	Solid	8015NM Prep	

Analysis Batch: 17055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-1	PH09	Total/NA	Solid	8015 NM	
890-1816-2	PH09	Total/NA	Solid	8015 NM	
890-1816-3	PH09	Total/NA	Solid	8015 NM	
890-1816-4	PH10	Total/NA	Solid	8015 NM	
890-1816-5	PH10	Total/NA	Solid	8015 NM	
890-1816-6	PH10	Total/NA	Solid	8015 NM	
890-1816-7	PH11	Total/NA	Solid	8015 NM	
890-1816-8	PH11	Total/NA	Solid	8015 NM	
890-1816-9	PH11	Total/NA	Solid	8015 NM	
890-1816-10	PH12	Total/NA	Solid	8015 NM	
890-1816-11	PH12	Total/NA	Solid	8015 NM	
890-1816-12	PH12	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 16761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-1	PH09	Soluble	Solid	DI Leach	
890-1816-2	PH09	Soluble	Solid	DI Leach	
890-1816-3	PH09	Soluble	Solid	DI Leach	
890-1816-4	PH10	Soluble	Solid	DI Leach	
890-1816-5	PH10	Soluble	Solid	DI Leach	
890-1816-6	PH10	Soluble	Solid	DI Leach	
890-1816-7	PH11	Soluble	Solid	DI Leach	
890-1816-8	PH11	Soluble	Solid	DI Leach	
890-1816-9	PH11	Soluble	Solid	DI Leach	
890-1816-10	PH12	Soluble	Solid	DI Leach	
890-1816-11	PH12	Soluble	Solid	DI Leach	
890-1816-12	PH12	Soluble	Solid	DI Leach	
MB 880-16761/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-16761/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-16761/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1816-10 MS	PH12	Soluble	Solid	DI Leach	
890-1816-10 MSD	PH12	Soluble	Solid	DI Leach	

Analysis Batch: 16927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-1	PH09	Soluble	Solid	300.0	16761
890-1816-2	PH09	Soluble	Solid	300.0	16761
890-1816-3	PH09	Soluble	Solid	300.0	16761

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

HPLC/IC (Continued)

Analysis Batch: 16927 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1816-4	PH10	Soluble	Solid	300.0	16761
890-1816-5	PH10	Soluble	Solid	300.0	16761
890-1816-6	PH10	Soluble	Solid	300.0	16761
890-1816-7	PH11	Soluble	Solid	300.0	16761
890-1816-8	PH11	Soluble	Solid	300.0	16761
890-1816-9	PH11	Soluble	Solid	300.0	16761
890-1816-10	PH12	Soluble	Solid	300.0	16761
890-1816-11	PH12	Soluble	Solid	300.0	16761
890-1816-12	PH12	Soluble	Solid	300.0	16761
MB 880-16761/1-A	Method Blank	Soluble	Solid	300.0	16761
LCS 880-16761/2-A	Lab Control Sample	Soluble	Solid	300.0	16761
LCSD 880-16761/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	16761
890-1816-10 MS	PH12	Soluble	Solid	300.0	16761
890-1816-10 MSD	PH12	Soluble	Solid	300.0	16761

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH09

Lab Sample ID: 890-1816-1

Date Collected: 01/10/22 13:16

Matrix: Solid

Date Received: 01/11/22 09:19

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	16655	01/13/22 07:30	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16697	01/13/22 10:56	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/12/22 21:46	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		5			16927	01/16/22 00:21	SC	XEN MID

Client Sample ID: PH09

Lab Sample ID: 890-1816-2

Date Collected: 01/10/22 13:20

Matrix: Solid

Date Received: 01/11/22 09:19

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	16655	01/13/22 07:30	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16697	01/13/22 11:16	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/12/22 22:53	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		5			16927	01/16/22 00:28	SC	XEN MID

Client Sample ID: PH09

Lab Sample ID: 890-1816-3

Date Collected: 01/10/22 13:24

Matrix: Solid

Date Received: 01/11/22 09:19

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	16655	01/13/22 07:30	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16697	01/13/22 11:37	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/12/22 23:13	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		5			16927	01/16/22 00:35	SC	XEN MID

Client Sample ID: PH10

Lab Sample ID: 890-1816-4

Date Collected: 01/10/22 13:40

Matrix: Solid

Date Received: 01/11/22 09:19

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	16655	01/13/22 07:30	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16697	01/13/22 11:58	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID

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Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH10

Lab Sample ID: 890-1816-4

Date Collected: 01/10/22 13:40

Matrix: Solid

Date Received: 01/11/22 09:19

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			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/12/22 23:32	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		1			16927	01/16/22 00:42	SC	XEN MID

Client Sample ID: PH10

Lab Sample ID: 890-1816-5

Date Collected: 01/10/22 13:45

Matrix: Solid

Date Received: 01/11/22 09:19

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	16731	01/13/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16809	01/14/22 16:04	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/12/22 23:53	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		5			16927	01/16/22 01:04	SC	XEN MID

Client Sample ID: PH10

Lab Sample ID: 890-1816-6

Date Collected: 01/10/22 13:49

Matrix: Solid

Date Received: 01/11/22 09:19

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	16731	01/13/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16809	01/14/22 16:24	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/13/22 00:14	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		10			16927	01/16/22 01:11	SC	XEN MID

Client Sample ID: PH11

Lab Sample ID: 890-1816-7

Date Collected: 01/10/22 14:03

Matrix: Solid

Date Received: 01/11/22 09:19

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	16731	01/13/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16809	01/14/22 16:45	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/13/22 00:34	AJ	XEN MID

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Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH11

Lab Sample ID: 890-1816-7

Date Collected: 01/10/22 14:03

Matrix: Solid

Date Received: 01/11/22 09:19

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	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		5			16927	01/16/22 01:18	SC	XEN MID

Client Sample ID: PH11

Lab Sample ID: 890-1816-8

Date Collected: 01/10/22 14:10

Matrix: Solid

Date Received: 01/11/22 09:19

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	16731	01/13/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16809	01/14/22 17:05	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/13/22 00:54	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		5			16927	01/16/22 01:25	SC	XEN MID

Client Sample ID: PH11

Lab Sample ID: 890-1816-9

Date Collected: 01/10/22 14:13

Matrix: Solid

Date Received: 01/11/22 09:19

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	16731	01/13/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16809	01/14/22 17:26	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/13/22 01:14	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		10			16927	01/16/22 01:32	SC	XEN MID

Client Sample ID: PH12

Lab Sample ID: 890-1816-10

Date Collected: 01/10/22 14:30

Matrix: Solid

Date Received: 01/11/22 09:19

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	16731	01/13/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16809	01/14/22 17:46	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/13/22 01:34	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		1			16927	01/16/22 01:39	SC	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Client Sample ID: PH12
Date Collected: 01/10/22 14:34
Date Received: 01/11/22 09:19

Lab Sample ID: 890-1816-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	16731	01/13/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16809	01/14/22 18:06	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/13/22 02:15	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		5			16927	01/16/22 02:00	SC	XEN MID

Client Sample ID: PH12
Date Collected: 01/10/22 14:40
Date Received: 01/11/22 09:19

Lab Sample ID: 890-1816-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	16731	01/13/22 11:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16809	01/14/22 18:27	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16679	01/12/22 14:31	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16627	01/13/22 02:35	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	16761	01/13/22 12:05	CH	XEN MID
Soluble	Analysis	300.0		5			16927	01/17/22 15:59	SC	XEN MID

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Laboratory: Eurofins Midland

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

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

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

Sample Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1816-1
SDG: 31403360.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1816-1	PH09	Solid	01/10/22 13:16	01/11/22 09:19	1
890-1816-2	PH09	Solid	01/10/22 13:20	01/11/22 09:19	2
890-1816-3	PH09	Solid	01/10/22 13:24	01/11/22 09:19	4
890-1816-4	PH10	Solid	01/10/22 13:40	01/11/22 09:19	1
890-1816-5	PH10	Solid	01/10/22 13:45	01/11/22 09:19	2
890-1816-6	PH10	Solid	01/10/22 13:49	01/11/22 09:19	4
890-1816-7	PH11	Solid	01/10/22 14:03	01/11/22 09:19	1
890-1816-8	PH11	Solid	01/10/22 14:10	01/11/22 09:19	2
890-1816-9	PH11	Solid	01/10/22 14:13	01/11/22 09:19	4
890-1816-10	PH12	Solid	01/10/22 14:30	01/11/22 09:19	1
890-1816-11	PH12	Solid	01/10/22 14:34	01/11/22 09:19	2
890-1816-12	PH12	Solid	01/10/22 14:40	01/11/22 09:19	4



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
Hobbs, NM (575-382-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (81

Work Order No: _____

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Chain of Custody

Project Manager:	Joseph Hernandez	Builder: (if different)	Jim Raley
Company Name:	WSP	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:	281-702-2929	Email:	Anna.Byers@wsp.com.

Work Order Comments	
Program: UST/ST ☐ PRP ☐ Brownfields ☐ KRC ☐ Superfund ☐ State of Project: Reporting: Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ADaPT ☐ Other:	

Project Name:	RDX 17-6	Turn Around:	☒
Project Number:	31403360.006	Routine:	
P.O. Number:	NRM2019548894	Rush:	
Sampler's Name:	Gilbert Moreno	Due Date:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes	☐ No	Wet Ice:	☒ Yes	☐ No
Temperature (°C):	1.2 / 1.2	Thermometer ID	TMA-007				
Received intact:	☒ Yes	☐ No					
Cooler Custody Seals:	☐ Yes	☒ No	Correction Factor:	0.2			
Sample Custody Seals:	☐ Yes	☒ No	Total Containers:	-			

Number of Containers
PA 8015)
EPA 0=8021)
le (EPA 300.0)

[illegible]

890-1816 Chain of Custody

Work Order Notes

Sample Identification				Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX (C)	Chloride	Sample Comments											
SS09				S	1.10.22	13:16	1	1	X	X	X												
SS09				S	1.10.22	13:20	2	2	X	X	X												
SS09				S	1.10.22	13:24	4	3	X	X	X												
SS10				S	1.10.22	13:40	1	4	X	X	X												
SS10				S	1.10.22	13:45	2	5	X	X	X												
SS10				S	1.10.22	13:49	4	6	X	X	X												
SS11				S	1.10.22	14:03	1	7	X	X	X												
SS11				S	1.10.22	14:10	2	8	X	X	X												
SS11				S	1.10.22	14:13	4	9	X	X	X												
SS12				S	1.10.22	14:30	1	10	X	X	X												

[illegible]

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		1.11.22 0919z			

Revised Date: 05/11/18 Rev: 2018



Chain of Custody

Work Order No:

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0050 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (602-352-7550) Atlanta, GA (770-449-8800) Tampa, FL (813) 281-3333
Hobbs, NM (505-392-7550)

Page 4 of 4
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Project Manager:	Joseph Hernandez	Built to: (if different)	Jim Raley
Company Name:	WSP	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	281-702-2329	Email	Anna.Byers@wsp.com

Work Order Comments					
Program:	UST/ST	☐ PRP	☐ Brownfields	☐ RRC	☐ Superfund
State of Project:					
Reporting Level II	☐ Level III	☐ PST/UST	☐ RRP	☐ Level IV	☐
Deliverables:	EDD	☐	ADAPT	☐	Other: ☐

[illegible][illegible]

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			1-11-22 0419 ^h			
3						
5						

Revised OHA 05/4/18 Rev. 2.

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1816-1

SDG Number: 31403360.006

Login Number: 1816

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1816-1

SDG Number: 31403360.006

Login Number: 1816

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/12/22 12:10 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1811-1

Laboratory Sample Delivery Group: 31403360.006

Client Project/Site: RDX 17-6

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:
1/14/2022 2:22:15 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 17-6

Laboratory Job ID: 890-1811-1
SDG: 31403360.006

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Job ID: 890-1811-1

Laboratory: Eurofins Carlsbad

Narrative	Job Narrative 890-1811-1
-----------	-----------------------------

Receipt

The samples were received on 1/7/2022 4:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.2°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH01 (890-1811-1), PH01 (890-1811-2), PH02 (890-1811-3), PH02 (890-1811-4), PH03 (890-1811-5), PH03 (890-1811-6), (880-10005-A-48-D), (880-10005-A-48-E MS) and (880-10005-A-48-F 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.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-16629 and analytical batch 880-16695 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 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Client Sample ID: PH01

Lab Sample ID: 890-1811-1

Date Collected: 01/07/22 10:00

Matrix: Solid

Date Received: 01/07/22 16:35

Sample Depth: 12

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		01/11/22 07:30	01/11/22 14:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 14:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 14:08	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/11/22 07:30	01/11/22 14:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 14:08	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/11/22 07:30	01/11/22 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	01/11/22 07:30	01/11/22 14:08	1
1,4-Difluorobenzene (Surr)	101		70 - 130	01/11/22 07:30	01/11/22 14:08	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/12/22 13:10	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			01/12/22 14:00	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		01/11/22 13:47	01/12/22 02:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/11/22 13:47	01/12/22 02:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/11/22 13:47	01/12/22 02:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	61	S1-	70 - 130	01/11/22 13:47	01/12/22 02:24	1
o-Terphenyl	64	S1-	70 - 130	01/11/22 13:47	01/12/22 02:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14800		99.0		mg/Kg			01/13/22 22:06	20

Client Sample ID: PH01

Lab Sample ID: 890-1811-2

Date Collected: 01/07/22 10:50

Matrix: Solid

Date Received: 01/07/22 16:35

Sample Depth: 22

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		01/11/22 07:30	01/11/22 14:28	1
Toluene	<0.00198	U	0.00198		mg/Kg		01/11/22 07:30	01/11/22 14:28	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		01/11/22 07:30	01/11/22 14:28	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		01/11/22 07:30	01/11/22 14:28	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		01/11/22 07:30	01/11/22 14:28	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		01/11/22 07:30	01/11/22 14:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	01/11/22 07:30	01/11/22 14:28	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Client Sample ID: PH01

Lab Sample ID: 890-1811-2

Date Collected: 01/07/22 10:50

Matrix: Solid

Date Received: 01/07/22 16:35

Sample Depth: 22

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	98		70 - 130	01/11/22 07:30	01/11/22 14:28	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			01/12/22 13:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/12/22 14:00	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		01/11/22 13:47	01/12/22 02:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/11/22 13:47	01/12/22 02:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/11/22 13:47	01/12/22 02:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	61	S1-	70 - 130				01/11/22 13:47	01/12/22 02:47	1
o-Terphenyl	65	S1-	70 - 130				01/11/22 13:47	01/12/22 02:47	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12900	F1	99.2		mg/Kg			01/13/22 22:13	20

Client Sample ID: PH02

Lab Sample ID: 890-1811-3

Date Collected: 01/07/22 11:55

Matrix: Solid

Date Received: 01/07/22 16:35

Sample Depth: 6

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		01/11/22 07:30	01/11/22 16:19	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/11/22 07:30	01/11/22 16:19	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/11/22 07:30	01/11/22 16:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/11/22 07:30	01/11/22 16:19	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/11/22 07:30	01/11/22 16:19	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/11/22 07:30	01/11/22 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	01/11/22 07:30	01/11/22 16:19	1
1,4-Difluorobenzene (Surr)	96		70 - 130	01/11/22 07:30	01/11/22 16:19	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/12/22 13:10	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			01/12/22 14:00	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Client Sample ID: PH02

Lab Sample ID: 890-1811-3

Date Collected: 01/07/22 11:55

Matrix: Solid

Date Received: 01/07/22 16:35

Sample Depth: 6

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		01/11/22 13:47	01/12/22 03:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/11/22 13:47	01/12/22 03:11	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/11/22 13:47	01/12/22 03:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130				01/11/22 13:47	01/12/22 03:11	1
o-Terphenyl	77		70 - 130				01/11/22 13:47	01/12/22 03:11	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8430		50.0		mg/Kg			01/13/22 22:34	10

Client Sample ID: PH02

Lab Sample ID: 890-1811-4

Date Collected: 01/07/22 13:16

Matrix: Solid

Date Received: 01/07/22 16:35

Sample Depth: 22

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		01/11/22 07:30	01/11/22 16:39	1
Toluene	<0.00198	U	0.00198		mg/Kg		01/11/22 07:30	01/11/22 16:39	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		01/11/22 07:30	01/11/22 16:39	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		01/11/22 07:30	01/11/22 16:39	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		01/11/22 07:30	01/11/22 16:39	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		01/11/22 07:30	01/11/22 16:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130				01/11/22 07:30	01/11/22 16:39	1
1,4-Difluorobenzene (Surr)	97		70 - 130				01/11/22 07:30	01/11/22 16:39	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			01/12/22 13:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/12/22 14:00	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		01/11/22 13:47	01/12/22 03:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/11/22 13:47	01/12/22 03:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/11/22 13:47	01/12/22 03:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	59	S1-	70 - 130				01/11/22 13:47	01/12/22 03:34	1
o-Terphenyl	62	S1-	70 - 130				01/11/22 13:47	01/12/22 03:34	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Client Sample ID: PH02

Lab Sample ID: 890-1811-4

Date Collected: 01/07/22 13:16

Matrix: Solid

Date Received: 01/07/22 16:35

Sample Depth: 22

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6070		49.8		mg/Kg			01/13/22 22:41	10

Client Sample ID: PH03

Lab Sample ID: 890-1811-5

Date Collected: 01/07/22 13:55

Matrix: Solid

Date Received: 01/07/22 16:35

Sample Depth: 6

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		01/11/22 07:30	01/11/22 17:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 17:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 17:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/11/22 07:30	01/11/22 17:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 17:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/11/22 07:30	01/11/22 17:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130				01/11/22 07:30	01/11/22 17:00	1
1,4-Difluorobenzene (Surr)	105		70 - 130				01/11/22 07:30	01/11/22 17:00	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/12/22 13:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/12/22 14:00	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		01/11/22 13:47	01/12/22 03:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/11/22 13:47	01/12/22 03:58	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/11/22 13:47	01/12/22 03:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	59	S1-	70 - 130				01/11/22 13:47	01/12/22 03:58	1
o-Terphenyl	62	S1-	70 - 130				01/11/22 13:47	01/12/22 03:58	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9860		99.4		mg/Kg			01/13/22 23:02	20

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Client Sample ID: PH03

Lab Sample ID: 890-1811-6

Date Collected: 01/07/22 14:48

Matrix: Solid

Date Received: 01/07/22 16:35

Sample Depth: 22

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		01/11/22 07:30	01/11/22 17:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/11/22 07:30	01/11/22 17:20	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/11/22 07:30	01/11/22 17:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/11/22 07:30	01/11/22 17:20	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/11/22 07:30	01/11/22 17:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/11/22 07:30	01/11/22 17:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	01/11/22 07:30	01/11/22 17:20	1
1,4-Difluorobenzene (Surr)	87		70 - 130	01/11/22 07:30	01/11/22 17:20	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			01/12/22 13:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/12/22 14:00	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		01/11/22 13:47	01/12/22 04:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/11/22 13:47	01/12/22 04:45	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/11/22 13:47	01/12/22 04:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	62	S1-	70 - 130	01/11/22 13:47	01/12/22 04:45	1
o-Terphenyl	66	S1-	70 - 130	01/11/22 13:47	01/12/22 04:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	920		25.0		mg/Kg			01/13/22 23:09	5

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Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

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)
890-1808-A-1-A MS	Matrix Spike	113	97
890-1808-A-1-B MSD	Matrix Spike Duplicate	114	99
890-1811-1	PH01	123	101
890-1811-2	PH01	123	98
890-1811-3	PH02	111	96
890-1811-4	PH02	115	97
890-1811-5	PH03	114	105
890-1811-6	PH03	114	87
LCS 880-16375/1-A	Lab Control Sample	106	102
LCSD 880-16375/2-A	Lab Control Sample Dup	100	95
MB 880-16375/5-A	Method Blank	122	104
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)
880-10005-A-48-E MS	Matrix Spike	65 S1-	61 S1-
880-10005-A-48-F MSD	Matrix Spike Duplicate	67 S1-	64 S1-
890-1811-1	PH01	61 S1-	64 S1-
890-1811-2	PH01	61 S1-	65 S1-
890-1811-3	PH02	71	77
890-1811-4	PH02	59 S1-	62 S1-
890-1811-5	PH03	59 S1-	62 S1-
890-1811-6	PH03	62 S1-	66 S1-
LCS 880-16541/2-A	Lab Control Sample	94	92
LCSD 880-16541/3-A	Lab Control Sample Dup	97	93
MB 880-16541/1-A	Method Blank	71	76
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-16375/5-A

Matrix: Solid

Analysis Batch: 16473

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 10:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 10:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 10:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/11/22 07:30	01/11/22 10:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/11/22 07:30	01/11/22 10:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/11/22 07:30	01/11/22 10:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	01/11/22 07:30	01/11/22 10:56	1
1,4-Difluorobenzene (Surr)	104		70 - 130	01/11/22 07:30	01/11/22 10:56	1

Lab Sample ID: LCS 880-16375/1-A

Matrix: Solid

Analysis Batch: 16473

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16375

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08315		mg/Kg		83	70 - 130
Toluene	0.100	0.08870		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.09339		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	0.200	0.1861		mg/Kg		93	70 - 130
o-Xylene	0.100	0.08889		mg/Kg		89	70 - 130

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

Lab Sample ID: LCSD 880-16375/2-A

Matrix: Solid

Analysis Batch: 16473

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16375

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.07953		mg/Kg		80	70 - 130	4	35
Toluene	0.100	0.08523		mg/Kg		85	70 - 130	4	35
Ethylbenzene	0.100	0.08496		mg/Kg		85	70 - 130	9	35
m-Xylene & p-Xylene	0.200	0.1720		mg/Kg		86	70 - 130	8	35
o-Xylene	0.100	0.08408		mg/Kg		84	70 - 130	6	35

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

Lab Sample ID: 890-1808-A-1-A MS

Matrix: Solid

Analysis Batch: 16473

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16375

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00202	U	0.0996	0.07065		mg/Kg		71	70 - 130
Toluene	<0.00202	U	0.0996	0.08138		mg/Kg		81	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

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

Lab Sample ID: 890-1808-A-1-A MS

Matrix: Solid

Analysis Batch: 16473

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16375

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00202	U	0.0996	0.08297		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1604		mg/Kg		81	70 - 130
o-Xylene	<0.00202	U	0.0996	0.07909		mg/Kg		79	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-1808-A-1-B MSD

Matrix: Solid

Analysis Batch: 16473

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16375

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.100	0.07696		mg/Kg		77	70 - 130	9	35
Toluene	<0.00202	U	0.100	0.08435		mg/Kg		84	70 - 130	4	35
Ethylbenzene	<0.00202	U	0.100	0.08810		mg/Kg		88	70 - 130	6	35
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1699		mg/Kg		85	70 - 130	6	35
o-Xylene	<0.00202	U	0.100	0.08222		mg/Kg		82	70 - 130	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

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

Lab Sample ID: MB 880-16541/1-A

Matrix: Solid

Analysis Batch: 16483

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16541

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		01/11/22 13:47	01/11/22 22:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/11/22 13:47	01/11/22 22:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/11/22 13:47	01/11/22 22:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130	01/11/22 13:47	01/11/22 22:28	1
o-Terphenyl	76		70 - 130	01/11/22 13:47	01/11/22 22:28	1

Lab Sample ID: LCS 880-16541/2-A

Matrix: Solid

Analysis Batch: 16483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16541

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	782.0		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	1000	894.0		mg/Kg		89	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

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

Lab Sample ID: LCS 880-16541/2-A

Matrix: Solid

Analysis Batch: 16483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16541

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

Lab Sample ID: LCSD 880-16541/3-A

Matrix: Solid

Analysis Batch: 16483

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16541

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	840.1		mg/Kg		84	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	979.9		mg/Kg		98	70 - 130	9	20

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

Lab Sample ID: 880-10005-A-48-E MS

Matrix: Solid

Analysis Batch: 16483

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16541

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	728.1		mg/Kg		71	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	786.7		mg/Kg		79	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	65	S1-	70 - 130
o-Terphenyl	61	S1-	70 - 130

Lab Sample ID: 880-10005-A-48-F MSD

Matrix: Solid

Analysis Batch: 16483

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16541

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	744.4		mg/Kg		73	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	826.5		mg/Kg		83	70 - 130	5	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	67	S1-	70 - 130
o-Terphenyl	64	S1-	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-16629/1-A

Matrix: Solid

Analysis Batch: 16695

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			01/13/22 19:23	1

Lab Sample ID: LCS 880-16629/2-A

Matrix: Solid

Analysis Batch: 16695

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	272.1		mg/Kg		109	90 - 110

Lab Sample ID: LCSD 880-16629/3-A

Matrix: Solid

Analysis Batch: 16695

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	272.5		mg/Kg		109	90 - 110	0	20

Lab Sample ID: 890-1811-2 MS

Matrix: Solid

Analysis Batch: 16695

Client Sample ID: PH01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	12900	F1	4960	18380	F1	mg/Kg		112	90 - 110

Lab Sample ID: 890-1811-2 MSD

Matrix: Solid

Analysis Batch: 16695

Client Sample ID: PH01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	12900	F1	4960	18190		mg/Kg		108	90 - 110	1	20

Eurofins Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

GC VOA

Prep Batch: 16375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1811-1	PH01	Total/NA	Solid	5035	
890-1811-2	PH01	Total/NA	Solid	5035	
890-1811-3	PH02	Total/NA	Solid	5035	
890-1811-4	PH02	Total/NA	Solid	5035	
890-1811-5	PH03	Total/NA	Solid	5035	
890-1811-6	PH03	Total/NA	Solid	5035	
MB 880-16375/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16375/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16375/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1808-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
890-1808-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 16473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1811-1	PH01	Total/NA	Solid	8021B	16375
890-1811-2	PH01	Total/NA	Solid	8021B	16375
890-1811-3	PH02	Total/NA	Solid	8021B	16375
890-1811-4	PH02	Total/NA	Solid	8021B	16375
890-1811-5	PH03	Total/NA	Solid	8021B	16375
890-1811-6	PH03	Total/NA	Solid	8021B	16375
MB 880-16375/5-A	Method Blank	Total/NA	Solid	8021B	16375
LCS 880-16375/1-A	Lab Control Sample	Total/NA	Solid	8021B	16375
LCSD 880-16375/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16375
890-1808-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	16375
890-1808-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	16375

Analysis Batch: 16668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1811-1	PH01	Total/NA	Solid	Total BTEX	
890-1811-2	PH01	Total/NA	Solid	Total BTEX	
890-1811-3	PH02	Total/NA	Solid	Total BTEX	
890-1811-4	PH02	Total/NA	Solid	Total BTEX	
890-1811-5	PH03	Total/NA	Solid	Total BTEX	
890-1811-6	PH03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 16483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1811-1	PH01	Total/NA	Solid	8015B NM	16541
890-1811-2	PH01	Total/NA	Solid	8015B NM	16541
890-1811-3	PH02	Total/NA	Solid	8015B NM	16541
890-1811-4	PH02	Total/NA	Solid	8015B NM	16541
890-1811-5	PH03	Total/NA	Solid	8015B NM	16541
890-1811-6	PH03	Total/NA	Solid	8015B NM	16541
MB 880-16541/1-A	Method Blank	Total/NA	Solid	8015B NM	16541
LCS 880-16541/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16541
LCSD 880-16541/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16541
880-10005-A-48-E MS	Matrix Spike	Total/NA	Solid	8015B NM	16541
880-10005-A-48-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	16541

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

GC Semi VOA

Prep Batch: 16541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1811-1	PH01	Total/NA	Solid	8015NM Prep	
890-1811-2	PH01	Total/NA	Solid	8015NM Prep	
890-1811-3	PH02	Total/NA	Solid	8015NM Prep	
890-1811-4	PH02	Total/NA	Solid	8015NM Prep	
890-1811-5	PH03	Total/NA	Solid	8015NM Prep	
890-1811-6	PH03	Total/NA	Solid	8015NM Prep	
MB 880-16541/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16541/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16541/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-10005-A-48-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-10005-A-48-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 16554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1811-1	PH01	Total/NA	Solid	8015 NM	
890-1811-2	PH01	Total/NA	Solid	8015 NM	
890-1811-3	PH02	Total/NA	Solid	8015 NM	
890-1811-4	PH02	Total/NA	Solid	8015 NM	
890-1811-5	PH03	Total/NA	Solid	8015 NM	
890-1811-6	PH03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 16629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1811-1	PH01	Soluble	Solid	DI Leach	
890-1811-2	PH01	Soluble	Solid	DI Leach	
890-1811-3	PH02	Soluble	Solid	DI Leach	
890-1811-4	PH02	Soluble	Solid	DI Leach	
890-1811-5	PH03	Soluble	Solid	DI Leach	
890-1811-6	PH03	Soluble	Solid	DI Leach	
MB 880-16629/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-16629/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-16629/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1811-2 MS	PH01	Soluble	Solid	DI Leach	
890-1811-2 MSD	PH01	Soluble	Solid	DI Leach	

Analysis Batch: 16695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1811-1	PH01	Soluble	Solid	300.0	16629
890-1811-2	PH01	Soluble	Solid	300.0	16629
890-1811-3	PH02	Soluble	Solid	300.0	16629
890-1811-4	PH02	Soluble	Solid	300.0	16629
890-1811-5	PH03	Soluble	Solid	300.0	16629
890-1811-6	PH03	Soluble	Solid	300.0	16629
MB 880-16629/1-A	Method Blank	Soluble	Solid	300.0	16629
LCS 880-16629/2-A	Lab Control Sample	Soluble	Solid	300.0	16629
LCSD 880-16629/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	16629
890-1811-2 MS	PH01	Soluble	Solid	300.0	16629
890-1811-2 MSD	PH01	Soluble	Solid	300.0	16629

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Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Client Sample ID: PH01

Lab Sample ID: 890-1811-1

Date Collected: 01/07/22 10:00

Matrix: Solid

Date Received: 01/07/22 16:35

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	16375	01/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16473	01/11/22 14:08	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16541	01/11/22 13:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16483	01/12/22 02:24	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	16629	01/12/22 10:44	CH	XEN MID
Soluble	Analysis	300.0		20			16695	01/13/22 22:06	CH	XEN MID

Client Sample ID: PH01

Lab Sample ID: 890-1811-2

Date Collected: 01/07/22 10:50

Matrix: Solid

Date Received: 01/07/22 16:35

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	16375	01/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16473	01/11/22 14:28	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16541	01/11/22 13:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16483	01/12/22 02:47	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	16629	01/12/22 10:44	CH	XEN MID
Soluble	Analysis	300.0		20			16695	01/13/22 22:13	CH	XEN MID

Client Sample ID: PH02

Lab Sample ID: 890-1811-3

Date Collected: 01/07/22 11:55

Matrix: Solid

Date Received: 01/07/22 16:35

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	16375	01/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16473	01/11/22 16:19	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16541	01/11/22 13:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16483	01/12/22 03:11	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	16629	01/12/22 10:44	CH	XEN MID
Soluble	Analysis	300.0		10			16695	01/13/22 22:34	CH	XEN MID

Client Sample ID: PH02

Lab Sample ID: 890-1811-4

Date Collected: 01/07/22 13:16

Matrix: Solid

Date Received: 01/07/22 16:35

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	16375	01/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16473	01/11/22 16:39	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID

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Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Client Sample ID: PH02

Lab Sample ID: 890-1811-4

Date Collected: 01/07/22 13:16

Matrix: Solid

Date Received: 01/07/22 16:35

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			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16541	01/11/22 13:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16483	01/12/22 03:34	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	16629	01/12/22 10:44	CH	XEN MID
Soluble	Analysis	300.0		10			16695	01/13/22 22:41	CH	XEN MID

Client Sample ID: PH03

Lab Sample ID: 890-1811-5

Date Collected: 01/07/22 13:55

Matrix: Solid

Date Received: 01/07/22 16:35

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	16375	01/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16473	01/11/22 17:00	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16541	01/11/22 13:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16483	01/12/22 03:58	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	16629	01/12/22 10:44	CH	XEN MID
Soluble	Analysis	300.0		20			16695	01/13/22 23:02	CH	XEN MID

Client Sample ID: PH03

Lab Sample ID: 890-1811-6

Date Collected: 01/07/22 14:48

Matrix: Solid

Date Received: 01/07/22 16:35

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	16375	01/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16473	01/11/22 17:20	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	16541	01/11/22 13:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16483	01/12/22 04:45	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	16629	01/12/22 10:44	CH	XEN MID
Soluble	Analysis	300.0		5			16695	01/13/22 23:09	CH	XEN MID

Laboratory References:

XEN MID = Eurofins 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 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Laboratory: Eurofins Midland

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

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

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

Sample Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1811-1
SDG: 31403360.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1811-1	PH01	Solid	01/07/22 10:00	01/07/22 16:35	12
890-1811-2	PH01	Solid	01/07/22 10:50	01/07/22 16:35	22
890-1811-3	PH02	Solid	01/07/22 11:55	01/07/22 16:35	6
890-1811-4	PH02	Solid	01/07/22 13:16	01/07/22 16:35	22
890-1811-5	PH03	Solid	01/07/22 13:55	01/07/22 16:35	6
890-1811-6	PH03	Solid	01/07/22 14:48	01/07/22 16:35	22



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 Crasbad, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8900 Tampa, FL (813) 520-2000 West Palm Beach, FL (561) 689-6701

Chain of Custody

Work Order No: _____

Page 1 of 1

Project Manager:	JOSEPH HERANDER	Bill to: (if different)	Jim Raley
Company Name:	WSP USA	Company Name:	WPA ENERGY
Address:	3388 NORTH A STREET	Address:	5315 BUENA VISTA DR
City, State ZIP:	MIDLAND, TX 79705	City, State ZIP:	CARLSBAD, NM 88223
Phone:	(281) 702-3329	Email:	anna.byles@wsp.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting Level II ☐ Level III ☐ PST/UST ☐ TRAP ☐ Level IV ☐	
Deliverables: EDO ☐ ADAPT ☐ Other:	

Project Name:	RDX 17-b	Turn Around	
Project Number:	31423362.CPL	Routine	☒
Project Location:	EDDY COUNTY	Rush:	
Sampler's Name:	GILBERT MCDON	Due Date:	
PO #:	PM2019018294	Quote #:	

SAMPLE RECEIPT	Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	3.4/3.2	Thermometer ID		
Received intact:	☒ Yes ☐ No	Correction Factor: 77.0-007		
Cooler Custody Seals:	Yes ☐ No ☒ N/A	Total Containers: 10.2		
Sample Custody Seals:	Yes ☐ No ☒ N/A			



800-1811 Chain of Custody

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
P481		S	1/7/22	1000	12'	1	PH (EPA BAS mod)	MeOH: Me	CC# : 1061137081
P481				1050	22'	1	BTEX (EPA 8021 B)	None: NO	
P482				1155	6'	1	Chloride (EPA 300.0)	HNO3: HN	
P482				1316	22'	1		H2SO4: H2	
P483				1355	6'	1		HCL: HL	
P483				1448	22'	1		NaOH: Na	
								Zn Acetate+ NaOH: Zn	
								TAT starts the day received by the lab, if received by 4:00pm	

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Jeff Davis</i>	<i>Lee Cof</i>	1.7.22 11035			

Revised Date 022619 Rev 2019 1

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: 890-1811-1

SDG Number: 31403360.006

Login Number: 1811

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1811-1

SDG Number: 31403360.006

Login Number: 1811

List Number: 2

Creator: Lowe, Katie

List Source: Eurofins Midland

List Creation: 01/11/22 12:18 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1822-1

Laboratory Sample Delivery Group: 31403360.006

Client Project/Site: RDX 17-6

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
1/18/2022 3:34:35 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 17-6

Laboratory Job ID: 890-1822-1
SDG: 31403360.006

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Job ID: 890-1822-1**Laboratory: Eurofins Carlsbad****Narrative****Job Narrative
890-1822-1****Receipt**

The samples were received on 1/12/2022 10:39 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: (MB 880-16781/5-A) and (MB 880-16834/5-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-16834 and analytical batch 880-16936 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 laboratory control sample (LCS) for preparation batch 880-16834 and analytical batch 880-16936 recovered outside control limits for the following analytes: Toluene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH06 (890-1822-5), PH06 (890-1822-6), PH07 (890-1822-7), PH07 (890-1822-8), PH08 (890-1822-9), (890-1824-A-1-E MS) and (890-1824-A-1-F 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.

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 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH04

Lab Sample ID: 890-1822-1

Date Collected: 01/10/22 14:00

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/17/22 07:15	01/17/22 12:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/17/22 07:15	01/17/22 12:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/17/22 07:15	01/17/22 12:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/17/22 07:15	01/17/22 12:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/17/22 07:15	01/17/22 12:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/17/22 07:15	01/17/22 12:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	01/17/22 07:15	01/17/22 12:35	1
1,4-Difluorobenzene (Surr)	101		70 - 130	01/17/22 07:15	01/17/22 12:35	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/17/22 14:46	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			01/17/22 14:15	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		01/13/22 13:55	01/15/22 03:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/13/22 13:55	01/15/22 03:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/13/22 13:55	01/15/22 03:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	72		70 - 130	01/13/22 13:55	01/15/22 03:07	1
o-Terphenyl	76		70 - 130	01/13/22 13:55	01/15/22 03:07	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	161		4.96		mg/Kg			01/18/22 09:20	1

Client Sample ID: PH04

Lab Sample ID: 890-1822-2

Date Collected: 01/10/22 14:02

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/17/22 07:15	01/17/22 13:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/17/22 07:15	01/17/22 13:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/17/22 07:15	01/17/22 13:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/17/22 07:15	01/17/22 13:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/17/22 07:15	01/17/22 13:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/17/22 07:15	01/17/22 13:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130	01/17/22 07:15	01/17/22 13:02	1

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH04

Lab Sample ID: 890-1822-2

Date Collected: 01/10/22 14:02

Matrix: Solid

Date Received: 01/12/22 10:39

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	01/17/22 07:15	01/17/22 13:02	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:15	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		01/13/22 13:55	01/15/22 03:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 03:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 03:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130				01/13/22 13:55	01/15/22 03:27	1
o-Terphenyl	78		70 - 130				01/13/22 13:55	01/15/22 03:27	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	361		4.99		mg/Kg			01/18/22 09:28	1

Client Sample ID: PH05

Lab Sample ID: 890-1822-3

Date Collected: 01/10/22 14:30

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/17/22 07:15	01/17/22 13:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/17/22 07:15	01/17/22 13:30	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/17/22 07:15	01/17/22 13:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/17/22 07:15	01/17/22 13:30	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/17/22 07:15	01/17/22 13:30	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/17/22 07:15	01/17/22 13:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	01/17/22 07:15	01/17/22 13:30	1
1,4-Difluorobenzene (Surr)	103		70 - 130	01/17/22 07:15	01/17/22 13:30	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	56.5		49.9		mg/Kg			01/17/22 14:15	1

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH05

Lab Sample ID: 890-1822-3

Date Collected: 01/10/22 14:30

Matrix: Solid

Date Received: 01/12/22 10:39

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	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 03:48	1
Diesel Range Organics (Over C10-C28)	56.5		49.9		mg/Kg		01/13/22 13:55	01/15/22 03:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 03:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130				01/13/22 13:55	01/15/22 03:48	1
o-Terphenyl	88		70 - 130				01/13/22 13:55	01/15/22 03:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	421		24.9		mg/Kg			01/18/22 09:51	5

Client Sample ID: PH05

Lab Sample ID: 890-1822-4

Date Collected: 01/10/22 14:32

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/17/22 07:15	01/17/22 13:57	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/17/22 07:15	01/17/22 13:57	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/17/22 07:15	01/17/22 13:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/17/22 07:15	01/17/22 13:57	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/17/22 07:15	01/17/22 13:57	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/17/22 07:15	01/17/22 13:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130				01/17/22 07:15	01/17/22 13:57	1
1,4-Difluorobenzene (Surr)	102		70 - 130				01/17/22 07:15	01/17/22 13:57	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	76.8		49.9		mg/Kg			01/17/22 14:15	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		01/13/22 13:55	01/15/22 04:10	1
Diesel Range Organics (Over C10-C28)	76.8		49.9		mg/Kg		01/13/22 13:55	01/15/22 04:10	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 04:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	70		70 - 130				01/13/22 13:55	01/15/22 04:10	1
o-Terphenyl	75		70 - 130				01/13/22 13:55	01/15/22 04:10	1

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH05

Lab Sample ID: 890-1822-4

Date Collected: 01/10/22 14:32

Matrix: Solid

Date Received: 01/12/22 10:39

Sample Depth: 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	195		24.9		mg/Kg			01/18/22 09:58	5

Client Sample ID: PH06

Lab Sample ID: 890-1822-5

Date Collected: 01/10/22 14:45

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/17/22 07:15	01/17/22 14:25	1
Toluene	<0.00198	U	0.00198		mg/Kg		01/17/22 07:15	01/17/22 14:25	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		01/17/22 07:15	01/17/22 14:25	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		01/17/22 07:15	01/17/22 14:25	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		01/17/22 07:15	01/17/22 14:25	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		01/17/22 07:15	01/17/22 14:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130				01/17/22 07:15	01/17/22 14:25	1
1,4-Difluorobenzene (Surr)	101		70 - 130				01/17/22 07:15	01/17/22 14:25	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:15	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		01/13/22 13:55	01/15/22 04:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 04:31	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 04:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	68	S1-	70 - 130				01/13/22 13:55	01/15/22 04:31	1
o-Terphenyl	75		70 - 130				01/13/22 13:55	01/15/22 04:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.76		4.95		mg/Kg			01/18/22 10:06	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH06

Lab Sample ID: 890-1822-6

Date Collected: 01/10/22 14:47

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/14/22 09:19	01/16/22 04:31	1
Toluene	<0.00200	U *+ F1	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:31	1
Ethylbenzene	<0.00200	U F1	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:31	1
m-Xylene & p-Xylene	<0.00401	U F1	0.00401		mg/Kg		01/14/22 09:19	01/16/22 04:31	1
o-Xylene	<0.00200	U F1	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:31	1
Xylenes, Total	<0.00401	U F1	0.00401		mg/Kg		01/14/22 09:19	01/16/22 04:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130	01/14/22 09:19	01/16/22 04:31	1
1,4-Difluorobenzene (Surr)	91		70 - 130	01/14/22 09:19	01/16/22 04:31	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/17/22 14:46	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			01/17/22 14:15	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		01/13/22 13:55	01/15/22 04:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/13/22 13:55	01/15/22 04:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/13/22 13:55	01/15/22 04:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	67	S1-	70 - 130	01/13/22 13:55	01/15/22 04:52	1
o-Terphenyl	72		70 - 130	01/13/22 13:55	01/15/22 04:52	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.03		5.00		mg/Kg			01/18/22 10:13	1

Client Sample ID: PH07

Lab Sample ID: 890-1822-7

Date Collected: 01/10/22 15:05

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/14/22 09:19	01/16/22 04:57	1
Toluene	<0.00200	U *+	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:57	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/14/22 09:19	01/16/22 04:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:57	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		01/14/22 09:19	01/16/22 04:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130	01/14/22 09:19	01/16/22 04:57	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH07

Lab Sample ID: 890-1822-7

Date Collected: 01/10/22 15:05

Matrix: Solid

Date Received: 01/12/22 10:39

Sample Depth: 0.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	87		70 - 130	01/14/22 09:19	01/16/22 04:57	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:15	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		01/13/22 13:55	01/15/22 05:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 05:14	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 05:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	68	S1-	70 - 130				01/13/22 13:55	01/15/22 05:14	1
o-Terphenyl	74		70 - 130				01/13/22 13:55	01/15/22 05:14	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/18/22 10:21	1

Client Sample ID: PH07

Lab Sample ID: 890-1822-8

Date Collected: 01/10/22 15:07

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/14/22 09:19	01/16/22 05:23	1
Toluene	<0.00201	U *	0.00201		mg/Kg		01/14/22 09:19	01/16/22 05:23	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/14/22 09:19	01/16/22 05:23	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/14/22 09:19	01/16/22 05:23	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/14/22 09:19	01/16/22 05:23	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/14/22 09:19	01/16/22 05:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	01/14/22 09:19	01/16/22 05:23	1
1,4-Difluorobenzene (Surr)	98		70 - 130	01/14/22 09:19	01/16/22 05:23	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			01/17/22 14:46	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			01/17/22 14:15	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH07

Lab Sample ID: 890-1822-8

Date Collected: 01/10/22 15:07

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/13/22 13:55	01/15/22 05:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/13/22 13:55	01/15/22 05:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/13/22 13:55	01/15/22 05:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	70		70 - 130				01/13/22 13:55	01/15/22 05:35	1
o-Terphenyl	73		70 - 130				01/13/22 13:55	01/15/22 05:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.01	U F1	5.01		mg/Kg			01/18/22 10:28	1

Client Sample ID: PH08

Lab Sample ID: 890-1822-9

Date Collected: 01/10/22 15:10

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/14/22 09:19	01/16/22 05:50	1
Toluene	<0.00200	U *+	0.00200		mg/Kg		01/14/22 09:19	01/16/22 05:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 05:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/14/22 09:19	01/16/22 05:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 05:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/14/22 09:19	01/16/22 05:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130				01/14/22 09:19	01/16/22 05:50	1
1,4-Difluorobenzene (Surr)	101		70 - 130				01/14/22 09:19	01/16/22 05:50	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/17/22 14:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/17/22 14:15	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		01/13/22 13:55	01/15/22 05:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 05:56	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/13/22 13:55	01/15/22 05:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	67	S1-	70 - 130				01/13/22 13:55	01/15/22 05:56	1
o-Terphenyl	69	S1-	70 - 130				01/13/22 13:55	01/15/22 05:56	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH08

Lab Sample ID: 890-1822-9

Date Collected: 01/10/22 15:10

Matrix: Solid

Date Received: 01/12/22 10:39

Sample Depth: 0.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.0		5.03		mg/Kg			01/18/22 10:51	1

Client Sample ID: PH08

Lab Sample ID: 890-1822-10

Date Collected: 01/10/22 15:12

Matrix: Solid

Date Received: 01/12/22 10:39

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		01/14/22 09:19	01/16/22 06:17	1
Toluene	<0.00200	U *	0.00200		mg/Kg		01/14/22 09:19	01/16/22 06:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 06:17	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/14/22 09:19	01/16/22 06:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 06:17	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/14/22 09:19	01/16/22 06:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130				01/14/22 09:19	01/16/22 06:17	1
1,4-Difluorobenzene (Surr)	96		70 - 130				01/14/22 09:19	01/16/22 06:17	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			01/17/22 14:46	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			01/17/22 14:15	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		01/13/22 13:59	01/14/22 09:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/13/22 13:59	01/14/22 09:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/13/22 13:59	01/14/22 09:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	73		70 - 130				01/13/22 13:59	01/14/22 09:04	1
o-Terphenyl	85		70 - 130				01/13/22 13:59	01/14/22 09:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	326		5.03		mg/Kg			01/18/22 10:58	1

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Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

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)
890-1822-1	PH04	94	101
890-1822-2	PH04	83	90
890-1822-3	PH05	99	103
890-1822-4	PH05	97	102
890-1822-5	PH06	99	101
890-1822-6	PH06	90	91
890-1822-6 MS	PH06	86	102
890-1822-6 MSD	PH06	88	105
890-1822-7	PH07	131 S1+	87
890-1822-8	PH07	93	98
890-1822-9	PH08	92	101
890-1822-10	PH08	88	96
LCS 880-16834/1-A	Lab Control Sample	97	109
LCS 880-16869/1-A	Lab Control Sample	86	103
LCSD 880-16834/2-A	Lab Control Sample Dup	99	114
LCSD 880-16869/2-A	Lab Control Sample Dup	87	103
MB 880-16781/5-A	Method Blank	62 S1-	91
MB 880-16834/5-A	Method Blank	62 S1-	93
MB 880-16869/5-A	Method Blank	70	92
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1	DFBZ1
890-1829-A-1-A MS	Matrix Spike		
890-1829-A-1-B MSD	Matrix Spike Duplicate		
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)
890-1822-1	PH04	72	76
890-1822-2	PH04	74	78
890-1822-3	PH05	82	88
890-1822-4	PH05	70	75
890-1822-5	PH06	68 S1-	75
890-1822-6	PH06	67 S1-	72
890-1822-7	PH07	68 S1-	74
890-1822-8	PH07	70	73

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Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

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)
890-1822-9	PH08	67 S1-	69 S1-
890-1822-10	PH08	73	85
890-1824-A-1-E MS	Matrix Spike	67 S1-	62 S1-
890-1824-A-1-F MSD	Matrix Spike Duplicate	66 S1-	62 S1-
LCS 880-16787/2-A	Lab Control Sample	93	87
LCSD 880-16787/3-A	Lab Control Sample Dup	90	86
MB 880-16787/1-A	Method Blank	74	85
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-16781/5-A

Matrix: Solid

Analysis Batch: 16936

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16781

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/14/22 12:00	01/15/22 14:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/14/22 12:00	01/15/22 14:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/14/22 12:00	01/15/22 14:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/14/22 12:00	01/15/22 14:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/14/22 12:00	01/15/22 14:19	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/14/22 12:00	01/15/22 14:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	62	S1-	70 - 130	01/14/22 12:00	01/15/22 14:19	1
1,4-Difluorobenzene (Surr)	91		70 - 130	01/14/22 12:00	01/15/22 14:19	1

Lab Sample ID: MB 880-16834/5-A

Matrix: Solid

Analysis Batch: 16936

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/14/22 09:19	01/16/22 04:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/14/22 09:19	01/16/22 04:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/14/22 09:19	01/16/22 04:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	62	S1-	70 - 130	01/14/22 09:19	01/16/22 04:04	1
1,4-Difluorobenzene (Surr)	93		70 - 130	01/14/22 09:19	01/16/22 04:04	1

Lab Sample ID: LCS 880-16834/1-A

Matrix: Solid

Analysis Batch: 16936

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1275		mg/Kg		127	70 - 130
Toluene	0.100	0.1351	*+	mg/Kg		135	70 - 130
Ethylbenzene	0.100	0.1146		mg/Kg		115	70 - 130
m-Xylene & p-Xylene	0.200	0.2390		mg/Kg		119	70 - 130
o-Xylene	0.100	0.1260		mg/Kg		126	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-16834/2-A

Matrix: Solid

Analysis Batch: 16936

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16834

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1144		mg/Kg		114	70 - 130	11	35

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

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

Lab Sample ID: LCSD 880-16834/2-A

Matrix: Solid

Analysis Batch: 16936

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16834

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.1225		mg/Kg		123	70 - 130	10	35
Ethylbenzene	0.100	0.1073		mg/Kg		107	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2233		mg/Kg		112	70 - 130	7	35
o-Xylene	0.100	0.1180		mg/Kg		118	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 890-1822-6 MS

Matrix: Solid

Analysis Batch: 16936

Client Sample ID: PH06

Prep Type: Total/NA

Prep Batch: 16834

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.101	0.07676		mg/Kg		76	70 - 130
Toluene	<0.00200	U *+ F1	0.101	0.06362	F1	mg/Kg		63	70 - 130
Ethylbenzene	<0.00200	U F1	0.101	0.05397	F1	mg/Kg		53	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.202	0.1061	F1	mg/Kg		53	70 - 130
o-Xylene	<0.00200	U F1	0.101	0.05113	F1	mg/Kg		51	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-1822-6 MSD

Matrix: Solid

Analysis Batch: 16936

Client Sample ID: PH06

Prep Type: Total/NA

Prep Batch: 16834

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	0.07887		mg/Kg		79	70 - 130	3	35
Toluene	<0.00200	U *+ F1	0.100	0.07217		mg/Kg		72	70 - 130	13	35
Ethylbenzene	<0.00200	U F1	0.100	0.06361	F1	mg/Kg		63	70 - 130	16	35
m-Xylene & p-Xylene	<0.00401	U F1	0.201	0.1298	F1	mg/Kg		65	70 - 130	20	35
o-Xylene	<0.00200	U F1	0.100	0.06564	F1	mg/Kg		65	70 - 130	25	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: MB 880-16869/5-A

Matrix: Solid

Analysis Batch: 16968

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16869

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/17/22 07:15	01/17/22 11:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/17/22 07:15	01/17/22 11:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/17/22 07:15	01/17/22 11:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/17/22 07:15	01/17/22 11:39	1

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

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

Lab Sample ID: MB 880-16869/5-A

Matrix: Solid

Analysis Batch: 16968

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16869

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/17/22 07:15	01/17/22 11:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/17/22 07:15	01/17/22 11:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		70 - 130	01/17/22 07:15	01/17/22 11:39	1
1,4-Difluorobenzene (Surr)	92		70 - 130	01/17/22 07:15	01/17/22 11:39	1

Lab Sample ID: LCS 880-16869/1-A

Matrix: Solid

Analysis Batch: 16968

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16869

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1205		mg/Kg		120	70 - 130
Toluene	0.100	0.1091		mg/Kg		109	70 - 130
Ethylbenzene	0.100	0.09424		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1968		mg/Kg		98	70 - 130
o-Xylene	0.100	0.1009		mg/Kg		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-16869/2-A

Matrix: Solid

Analysis Batch: 16968

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16869

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1258		mg/Kg		126	70 - 130	4	35
Toluene	0.100	0.1142		mg/Kg		114	70 - 130	5	35
Ethylbenzene	0.100	0.09901		mg/Kg		99	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.2072		mg/Kg		104	70 - 130	5	35
o-Xylene	0.100	0.1059		mg/Kg		106	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 890-1829-A-1-A MS

Matrix: Solid

Analysis Batch: 16968

Client Sample ID: Matrix Spike

Prep Type: Total/NA

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

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

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

Lab Sample ID: 890-1829-A-1-B MSD

Matrix: Solid

Analysis Batch: 16968

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

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

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

Lab Sample ID: MB 880-16787/1-A

Matrix: Solid

Analysis Batch: 16815

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16787

	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		01/13/22 13:55	01/14/22 21:18	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/13/22 13:55	01/14/22 21:18	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/13/22 13:55	01/14/22 21:18	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	74		70 - 130				01/13/22 13:55	01/14/22 21:18	1	
o-Terphenyl	85		70 - 130				01/13/22 13:55	01/14/22 21:18	1	

Lab Sample ID: LCS 880-16787/2-A

Matrix: Solid

Analysis Batch: 16815

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16787

			Spike	LCS	LCS				%Rec.	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10			1000	967.2		mg/Kg		97	70 - 130	
Diesel Range Organics (Over C10-C28)			1000	804.8		mg/Kg		80	70 - 130	
Surrogate	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	93		70 - 130							
o-Terphenyl	87		70 - 130							

Lab Sample ID: LCSD 880-16787/3-A

Matrix: Solid

Analysis Batch: 16815

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16787

			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	945.2		mg/Kg		95	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	796.1		mg/Kg		80	70 - 130	1	20
Surrogate	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	90		70 - 130								
o-Terphenyl	86		70 - 130								

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

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

Lab Sample ID: 890-1824-A-1-E MS

Matrix: Solid

Analysis Batch: 16815

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16787

	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	996	1114		mg/Kg		108	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	996	945.9		mg/Kg		93	70 - 130		

Lab Sample ID: 890-1824-A-1-F MSD

Matrix: Solid

Analysis Batch: 16815

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16787

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1084		mg/Kg		104	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	951.7		mg/Kg		93	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	66	S1-	70 - 130								
o-Terphenyl	62	S1-	70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-16762/1-A

Matrix: Solid

Analysis Batch: 16935

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			01/18/22 08:20	1

Lab Sample ID: LCS 880-16762/2-A

Matrix: Solid

Analysis Batch: 16935

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	270.7		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-16762/3-A

Matrix: Solid

Analysis Batch: 16935

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	270.6		mg/Kg		108	90 - 110	0	20

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1822-8 MS

Matrix: Solid

Analysis Batch: 16935

Client Sample ID: PH07

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<5.01	U F1	251	291.8	F1	mg/Kg		115	90 - 110

Lab Sample ID: 890-1822-8 MSD

Matrix: Solid

Analysis Batch: 16935

Client Sample ID: PH07

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<5.01	U F1	251	280.1		mg/Kg		110	90 - 110	4	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

GC VOA

Prep Batch: 16781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-16781/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 16834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-6	PH06	Total/NA	Solid	5035	
890-1822-7	PH07	Total/NA	Solid	5035	
890-1822-8	PH07	Total/NA	Solid	5035	
890-1822-9	PH08	Total/NA	Solid	5035	
890-1822-10	PH08	Total/NA	Solid	5035	
MB 880-16834/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16834/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16834/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1822-6 MS	PH06	Total/NA	Solid	5035	
890-1822-6 MSD	PH06	Total/NA	Solid	5035	

Prep Batch: 16869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-1	PH04	Total/NA	Solid	5035	
890-1822-2	PH04	Total/NA	Solid	5035	
890-1822-3	PH05	Total/NA	Solid	5035	
890-1822-4	PH05	Total/NA	Solid	5035	
890-1822-5	PH06	Total/NA	Solid	5035	
MB 880-16869/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16869/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16869/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 16936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-6	PH06	Total/NA	Solid	8021B	16834
890-1822-7	PH07	Total/NA	Solid	8021B	16834
890-1822-8	PH07	Total/NA	Solid	8021B	16834
890-1822-9	PH08	Total/NA	Solid	8021B	16834
890-1822-10	PH08	Total/NA	Solid	8021B	16834
MB 880-16781/5-A	Method Blank	Total/NA	Solid	8021B	16781
MB 880-16834/5-A	Method Blank	Total/NA	Solid	8021B	16834
LCS 880-16834/1-A	Lab Control Sample	Total/NA	Solid	8021B	16834
LCSD 880-16834/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16834
890-1822-6 MS	PH06	Total/NA	Solid	8021B	16834
890-1822-6 MSD	PH06	Total/NA	Solid	8021B	16834

Analysis Batch: 16968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-1	PH04	Total/NA	Solid	8021B	16869
890-1822-2	PH04	Total/NA	Solid	8021B	16869
890-1822-3	PH05	Total/NA	Solid	8021B	16869
890-1822-4	PH05	Total/NA	Solid	8021B	16869
890-1822-5	PH06	Total/NA	Solid	8021B	16869
MB 880-16869/5-A	Method Blank	Total/NA	Solid	8021B	16869
LCS 880-16869/1-A	Lab Control Sample	Total/NA	Solid	8021B	16869
LCSD 880-16869/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16869
890-1829-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

GC VOA (Continued)

Analysis Batch: 16968 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1829-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	

Analysis Batch: 17056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-1	PH04	Total/NA	Solid	Total BTEX	
890-1822-2	PH04	Total/NA	Solid	Total BTEX	
890-1822-3	PH05	Total/NA	Solid	Total BTEX	
890-1822-4	PH05	Total/NA	Solid	Total BTEX	
890-1822-5	PH06	Total/NA	Solid	Total BTEX	
890-1822-6	PH06	Total/NA	Solid	Total BTEX	
890-1822-7	PH07	Total/NA	Solid	Total BTEX	
890-1822-8	PH07	Total/NA	Solid	Total BTEX	
890-1822-9	PH08	Total/NA	Solid	Total BTEX	
890-1822-10	PH08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 16702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-10	PH08	Total/NA	Solid	8015B NM	16788

Prep Batch: 16787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-1	PH04	Total/NA	Solid	8015NM Prep	
890-1822-2	PH04	Total/NA	Solid	8015NM Prep	
890-1822-3	PH05	Total/NA	Solid	8015NM Prep	
890-1822-4	PH05	Total/NA	Solid	8015NM Prep	
890-1822-5	PH06	Total/NA	Solid	8015NM Prep	
890-1822-6	PH06	Total/NA	Solid	8015NM Prep	
890-1822-7	PH07	Total/NA	Solid	8015NM Prep	
890-1822-8	PH07	Total/NA	Solid	8015NM Prep	
890-1822-9	PH08	Total/NA	Solid	8015NM Prep	
MB 880-16787/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16787/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16787/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1824-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1824-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 16788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-10	PH08	Total/NA	Solid	8015NM Prep	

Analysis Batch: 16815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-1	PH04	Total/NA	Solid	8015B NM	16787
890-1822-2	PH04	Total/NA	Solid	8015B NM	16787
890-1822-3	PH05	Total/NA	Solid	8015B NM	16787
890-1822-4	PH05	Total/NA	Solid	8015B NM	16787
890-1822-5	PH06	Total/NA	Solid	8015B NM	16787
890-1822-6	PH06	Total/NA	Solid	8015B NM	16787
890-1822-7	PH07	Total/NA	Solid	8015B NM	16787

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

GC Semi VOA (Continued)

Analysis Batch: 16815 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-8	PH07	Total/NA	Solid	8015B NM	16787
890-1822-9	PH08	Total/NA	Solid	8015B NM	16787
MB 880-16787/1-A	Method Blank	Total/NA	Solid	8015B NM	16787
LCS 880-16787/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16787
LCSD 880-16787/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16787
890-1824-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	16787
890-1824-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	16787

Analysis Batch: 17055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-1	PH04	Total/NA	Solid	8015 NM	
890-1822-2	PH04	Total/NA	Solid	8015 NM	
890-1822-3	PH05	Total/NA	Solid	8015 NM	
890-1822-4	PH05	Total/NA	Solid	8015 NM	
890-1822-5	PH06	Total/NA	Solid	8015 NM	
890-1822-6	PH06	Total/NA	Solid	8015 NM	
890-1822-7	PH07	Total/NA	Solid	8015 NM	
890-1822-8	PH07	Total/NA	Solid	8015 NM	
890-1822-9	PH08	Total/NA	Solid	8015 NM	
890-1822-10	PH08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 16762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-1	PH04	Soluble	Solid	DI Leach	
890-1822-2	PH04	Soluble	Solid	DI Leach	
890-1822-3	PH05	Soluble	Solid	DI Leach	
890-1822-4	PH05	Soluble	Solid	DI Leach	
890-1822-5	PH06	Soluble	Solid	DI Leach	
890-1822-6	PH06	Soluble	Solid	DI Leach	
890-1822-7	PH07	Soluble	Solid	DI Leach	
890-1822-8	PH07	Soluble	Solid	DI Leach	
890-1822-9	PH08	Soluble	Solid	DI Leach	
890-1822-10	PH08	Soluble	Solid	DI Leach	
MB 880-16762/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-16762/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-16762/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1822-8 MS	PH07	Soluble	Solid	DI Leach	
890-1822-8 MSD	PH07	Soluble	Solid	DI Leach	

Analysis Batch: 16935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-1	PH04	Soluble	Solid	300.0	16762
890-1822-2	PH04	Soluble	Solid	300.0	16762
890-1822-3	PH05	Soluble	Solid	300.0	16762
890-1822-4	PH05	Soluble	Solid	300.0	16762
890-1822-5	PH06	Soluble	Solid	300.0	16762
890-1822-6	PH06	Soluble	Solid	300.0	16762
890-1822-7	PH07	Soluble	Solid	300.0	16762
890-1822-8	PH07	Soluble	Solid	300.0	16762

Eurofins Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

HPLC/IC (Continued)

Analysis Batch: 16935 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1822-9	PH08	Soluble	Solid	300.0	16762
890-1822-10	PH08	Soluble	Solid	300.0	16762
MB 880-16762/1-A	Method Blank	Soluble	Solid	300.0	16762
LCS 880-16762/2-A	Lab Control Sample	Soluble	Solid	300.0	16762
LCSD 880-16762/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	16762
890-1822-8 MS	PH07	Soluble	Solid	300.0	16762
890-1822-8 MSD	PH07	Soluble	Solid	300.0	16762

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH04
Date Collected: 01/10/22 14:00
Date Received: 01/12/22 10:39

Lab Sample ID: 890-1822-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	16869	01/17/22 07:15	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16968	01/17/22 12:35	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	16787	01/13/22 13:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16815	01/15/22 03:07	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			16935	01/18/22 09:20	CH	XEN MID

Client Sample ID: PH04
Date Collected: 01/10/22 14:02
Date Received: 01/12/22 10:39

Lab Sample ID: 890-1822-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	16869	01/17/22 07:15	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16968	01/17/22 13:02	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16787	01/13/22 13:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16815	01/15/22 03:27	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			16935	01/18/22 09:28	CH	XEN MID

Client Sample ID: PH05
Date Collected: 01/10/22 14:30
Date Received: 01/12/22 10:39

Lab Sample ID: 890-1822-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	16869	01/17/22 07:15	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16968	01/17/22 13:30	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	16787	01/13/22 13:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16815	01/15/22 03:48	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		5			16935	01/18/22 09:51	CH	XEN MID

Client Sample ID: PH05
Date Collected: 01/10/22 14:32
Date Received: 01/12/22 10:39

Lab Sample ID: 890-1822-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	16869	01/17/22 07:15	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16968	01/17/22 13:57	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH05

Lab Sample ID: 890-1822-4

Date Collected: 01/10/22 14:32

Matrix: Solid

Date Received: 01/12/22 10:39

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			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16787	01/13/22 13:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16815	01/15/22 04:10	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		5			16935	01/18/22 09:58	CH	XEN MID

Client Sample ID: PH06

Lab Sample ID: 890-1822-5

Date Collected: 01/10/22 14:45

Matrix: Solid

Date Received: 01/12/22 10:39

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	16869	01/17/22 07:15	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16968	01/17/22 14:25	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	16787	01/13/22 13:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16815	01/15/22 04:31	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			16935	01/18/22 10:06	CH	XEN MID

Client Sample ID: PH06

Lab Sample ID: 890-1822-6

Date Collected: 01/10/22 14:47

Matrix: Solid

Date Received: 01/12/22 10:39

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	16834	01/14/22 09:19	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16936	01/16/22 04:31	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16787	01/13/22 13:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16815	01/15/22 04:52	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			16935	01/18/22 10:13	CH	XEN MID

Client Sample ID: PH07

Lab Sample ID: 890-1822-7

Date Collected: 01/10/22 15:05

Matrix: Solid

Date Received: 01/12/22 10:39

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	16834	01/14/22 09:19	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16936	01/16/22 04:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16787	01/13/22 13:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16815	01/15/22 05:14	AJ	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Client Sample ID: PH07

Lab Sample ID: 890-1822-7

Date Collected: 01/10/22 15:05

Matrix: Solid

Date Received: 01/12/22 10:39

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 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			16935	01/18/22 10:21	CH	XEN MID

Client Sample ID: PH07

Lab Sample ID: 890-1822-8

Date Collected: 01/10/22 15:07

Matrix: Solid

Date Received: 01/12/22 10:39

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	16834	01/14/22 09:19	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16936	01/16/22 05:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16787	01/13/22 13:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16815	01/15/22 05:35	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			16935	01/18/22 10:28	CH	XEN MID

Client Sample ID: PH08

Lab Sample ID: 890-1822-9

Date Collected: 01/10/22 15:10

Matrix: Solid

Date Received: 01/12/22 10:39

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	16834	01/14/22 09:19	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16936	01/16/22 05:50	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16787	01/13/22 13:55	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16815	01/15/22 05:56	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			16935	01/18/22 10:51	CH	XEN MID

Client Sample ID: PH08

Lab Sample ID: 890-1822-10

Date Collected: 01/10/22 15:12

Matrix: Solid

Date Received: 01/12/22 10:39

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	16834	01/14/22 09:19	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16936	01/16/22 06:17	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			17056	01/17/22 14:46	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			17055	01/17/22 14:15	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16788	01/13/22 13:59	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16702	01/14/22 09:04	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	16762	01/13/22 12:10	SC	XEN MID
Soluble	Analysis	300.0		1			16935	01/18/22 10:58	CH	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Laboratory References:
XEN MID = Eurofins 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 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Laboratory: Eurofins 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 17-6

Job ID: 890-1822-1
SDG: 31403360.006

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

Sample Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1822-1
SDG: 31403360.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1822-1	PH04	Solid	01/10/22 14:00	01/12/22 10:39	0.5
890-1822-2	PH04	Solid	01/10/22 14:02	01/12/22 10:39	1
890-1822-3	PH05	Solid	01/10/22 14:30	01/12/22 10:39	0.5
890-1822-4	PH05	Solid	01/10/22 14:32	01/12/22 10:39	1
890-1822-5	PH06	Solid	01/10/22 14:45	01/12/22 10:39	0.5
890-1822-6	PH06	Solid	01/10/22 14:47	01/12/22 10:39	1
890-1822-7	PH07	Solid	01/10/22 15:05	01/12/22 10:39	0.5
890-1822-8	PH07	Solid	01/10/22 15:07	01/12/22 10:39	1
890-1822-9	PH08	Solid	01/10/22 15:10	01/12/22 10:39	0.5
890-1822-10	PH08	Solid	01/10/22 15:12	01/12/22 10:39	1

Chain of Custody



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

Work Order No:

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Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Project Name:		Turn Around	
Project Number:		Routine ☒ Rush ☐	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wet Ice: ☒ Yes ☐ No	

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1822-1

SDG Number: 31403360.006

Login Number: 1822

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1822-1

SDG Number: 31403360.006

Login Number: 1822

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/13/22 11:26 AM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1927-1
Laboratory Sample Delivery Group: 31403360.01
Client Project/Site: RDX 17-6

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:
2/24/2022 4:27:36 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 17-6

Laboratory Job ID: 890-1927-1
SDG: 31403360.01

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Job ID: 890-1927-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-1927-1

Receipt

The samples were received on 2/9/2022 1:11 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-19048 and analytical batch 880-18980 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-1919-A-1-C). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (MB 880-19049/1-A), (890-1924-A-9-C MS) and (890-1924-A-9-D MSD). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-11152-A-21-C MS) and (880-11152-A-21-D 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.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-19422 and analytical batch 880-19575 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 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Client Sample ID: SW17

Lab Sample ID: 890-1927-1

Date Collected: 02/09/22 09:20

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 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		02/11/22 07:30	02/11/22 17:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/11/22 07:30	02/11/22 17:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/11/22 07:30	02/11/22 17:10	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/11/22 07:30	02/11/22 17:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/11/22 07:30	02/11/22 17:10	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/11/22 07:30	02/11/22 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	02/11/22 07:30	02/11/22 17:10	1
1,4-Difluorobenzene (Surr)	114		70 - 130	02/11/22 07:30	02/11/22 17:10	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/14/22 10:01	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			02/17/22 15:56	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		02/10/22 13:35	02/12/22 06:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/10/22 13:35	02/12/22 06:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/10/22 13:35	02/12/22 06:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	77		70 - 130	02/10/22 13:35	02/12/22 06:43	1
o-Terphenyl	78		70 - 130	02/10/22 13:35	02/12/22 06:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2430		100		mg/Kg			02/19/22 10:53	20

Client Sample ID: SW18

Lab Sample ID: 890-1927-2

Date Collected: 02/09/22 09:26

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 4

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		02/11/22 07:30	02/11/22 17:30	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 17:30	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 17:30	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/11/22 07:30	02/11/22 17:30	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 17:30	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/11/22 07:30	02/11/22 17:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	02/11/22 07:30	02/11/22 17:30	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Client Sample ID: SW18

Lab Sample ID: 890-1927-2

Date Collected: 02/09/22 09:26

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	112		70 - 130	02/11/22 07:30	02/11/22 17:30	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			02/14/22 09:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	354		50.0		mg/Kg			02/17/22 15:56	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		02/10/22 13:35	02/12/22 07:04	1
Diesel Range Organics (Over C10-C28)	354		50.0		mg/Kg		02/10/22 13:35	02/12/22 07:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/10/22 13:35	02/12/22 07:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130				02/10/22 13:35	02/12/22 07:04	1
o-Terphenyl	90		70 - 130				02/10/22 13:35	02/12/22 07:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5230	F1	99.8		mg/Kg			02/19/22 11:02	20

Client Sample ID: SW19

Lab Sample ID: 890-1927-3

Date Collected: 02/09/22 09:35

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 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		02/11/22 07:30	02/11/22 17:51	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/11/22 07:30	02/11/22 17:51	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/11/22 07:30	02/11/22 17:51	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/11/22 07:30	02/11/22 17:51	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/11/22 07:30	02/11/22 17:51	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/11/22 07:30	02/11/22 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	02/11/22 07:30	02/11/22 17:51	1
1,4-Difluorobenzene (Surr)	100		70 - 130	02/11/22 07:30	02/11/22 17:51	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/14/22 09:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/17/22 15:56	1

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Client Sample ID: SW19

Lab Sample ID: 890-1927-3

Date Collected: 02/09/22 09:35

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 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	<49.9	U	49.9		mg/Kg		02/10/22 13:35	02/12/22 07:26	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/10/22 13:35	02/12/22 07:26	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/10/22 13:35	02/12/22 07:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130				02/10/22 13:35	02/12/22 07:26	1
o-Terphenyl	83		70 - 130				02/10/22 13:35	02/12/22 07:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3700		99.8		mg/Kg			02/19/22 11:29	20

Client Sample ID: SW20

Lab Sample ID: 890-1927-4

Date Collected: 02/09/22 09:38

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 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		02/11/22 07:30	02/11/22 18:11	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/11/22 07:30	02/11/22 18:11	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/11/22 07:30	02/11/22 18:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/11/22 07:30	02/11/22 18:11	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/11/22 07:30	02/11/22 18:11	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/11/22 07:30	02/11/22 18:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130				02/11/22 07:30	02/11/22 18:11	1
1,4-Difluorobenzene (Surr)	100		70 - 130				02/11/22 07:30	02/11/22 18:11	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/14/22 09:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	86.3		50.0		mg/Kg			02/17/22 15:56	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		02/10/22 13:35	02/12/22 07:48	1
Diesel Range Organics (Over C10-C28)	86.3		50.0		mg/Kg		02/10/22 13:35	02/12/22 07:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/10/22 13:35	02/12/22 07:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	73		70 - 130				02/10/22 13:35	02/12/22 07:48	1
o-Terphenyl	72		70 - 130				02/10/22 13:35	02/12/22 07:48	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Client Sample ID: SW20

Lab Sample ID: 890-1927-4

Date Collected: 02/09/22 09:38

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3590		99.0		mg/Kg			02/19/22 11:37	20

Client Sample ID: SW21

Lab Sample ID: 890-1927-5

Date Collected: 02/09/22 09:42

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 4

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		02/11/22 07:30	02/11/22 18:32	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 18:32	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 18:32	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/11/22 07:30	02/11/22 18:32	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 18:32	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/11/22 07:30	02/11/22 18:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130				02/11/22 07:30	02/11/22 18:32	1
1,4-Difluorobenzene (Surr)	97		70 - 130				02/11/22 07:30	02/11/22 18:32	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			02/14/22 09:43	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			02/17/22 15:56	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		02/10/22 13:28	02/11/22 02:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/10/22 13:28	02/11/22 02:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/10/22 13:28	02/11/22 02:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130				02/10/22 13:28	02/11/22 02:47	1
o-Terphenyl	93		70 - 130				02/10/22 13:28	02/11/22 02:47	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4990		100		mg/Kg			02/19/22 12:04	20

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Client Sample ID: SW22

Lab Sample ID: 890-1927-6

Date Collected: 02/09/22 09:45

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 4

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		02/11/22 07:30	02/11/22 18:52	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 18:52	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 18:52	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/11/22 07:30	02/11/22 18:52	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 18:52	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/11/22 07:30	02/11/22 18:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	02/11/22 07:30	02/11/22 18:52	1
1,4-Difluorobenzene (Surr)	104		70 - 130	02/11/22 07:30	02/11/22 18:52	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			02/14/22 09:43	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			02/17/22 15:56	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		02/10/22 13:28	02/11/22 03:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/10/22 13:28	02/11/22 03:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/10/22 13:28	02/11/22 03:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	02/10/22 13:28	02/11/22 03:09	1
o-Terphenyl	95		70 - 130	02/10/22 13:28	02/11/22 03:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9120		253		mg/Kg			02/19/22 12:13	50

Client Sample ID: SW23

Lab Sample ID: 890-1927-7

Date Collected: 02/09/22 09:47

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 4

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		02/11/22 07:30	02/11/22 19:13	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 19:13	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 19:13	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/11/22 07:30	02/11/22 19:13	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/11/22 07:30	02/11/22 19:13	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/11/22 07:30	02/11/22 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	02/11/22 07:30	02/11/22 19:13	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Client Sample ID: SW23

Lab Sample ID: 890-1927-7

Date Collected: 02/09/22 09:47

Matrix: Solid

Date Received: 02/09/22 13:11

Sample Depth: 0 - 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	83		70 - 130	02/11/22 07:30	02/11/22 19:13	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			02/14/22 09:43	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			02/15/22 13:20	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		02/10/22 14:29	02/13/22 17:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/10/22 14:29	02/13/22 17:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/10/22 14:29	02/13/22 17:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	73		70 - 130				02/10/22 14:29	02/13/22 17:05	1
o-Terphenyl	80		70 - 130				02/10/22 14:29	02/13/22 17:05	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4450		50.1		mg/Kg			02/19/22 12:22	10

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

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)
880-11145-A-11-A MS	Matrix Spike	113	74
880-11145-A-11-B MSD	Matrix Spike Duplicate	105	106
890-1927-1	SW17	113	114
890-1927-2	SW18	114	112
890-1927-3	SW19	105	100
890-1927-4	SW20	105	100
890-1927-5	SW21	110	97
890-1927-6	SW22	109	104
890-1927-7	SW23	105	83
LCS 880-19014/1-A	Lab Control Sample	98	95
LCSD 880-19014/2-A	Lab Control Sample Dup	109	102
MB 880-19014/5-A	Method Blank	105	94
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-11152-A-21-C MS	Matrix Spike	63 S1-	63 S1-
880-11152-A-21-D MSD	Matrix Spike Duplicate	65 S1-	64 S1-
890-1919-A-1-D MS	Matrix Spike	123	82
890-1919-A-1-E MSD	Matrix Spike Duplicate	120	85
890-1924-A-9-C MS	Matrix Spike	75	68 S1-
890-1924-A-9-D MSD	Matrix Spike Duplicate	77	68 S1-
890-1927-1	SW17	77	78
890-1927-2	SW18	89	90
890-1927-3	SW19	82	83
890-1927-4	SW20	73	72
890-1927-5	SW21	88	93
890-1927-6	SW22	89	95
890-1927-7	SW23	73	80
LCS 880-19049/2-A	Lab Control Sample	99	93
LCSD 880-19049/3-A	Lab Control Sample Dup	99	93
MB 880-19049/1-A	Method Blank	65 S1-	69 S1-
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-19048/2-A	Lab Control Sample	91	101

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Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

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	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-19055/2-A	Lab Control Sample	95	106
LCSD 880-19048/3-A	Lab Control Sample Dup	100	112
LCSD 880-19055/3-A	Lab Control Sample Dup	106	114
MB 880-19048/1-A	Method Blank	94	99
MB 880-19055/1-A	Method Blank	78	82
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-19014/5-A

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19014

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/11/22 07:30	02/11/22 11:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/11/22 07:30	02/11/22 11:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/11/22 07:30	02/11/22 11:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/11/22 07:30	02/11/22 11:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/11/22 07:30	02/11/22 11:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/11/22 07:30	02/11/22 11:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	02/11/22 07:30	02/11/22 11:21	1
1,4-Difluorobenzene (Surr)	94		70 - 130	02/11/22 07:30	02/11/22 11:21	1

Lab Sample ID: LCS 880-19014/1-A

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19014

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09671		mg/Kg		97	70 - 130
Toluene	0.100	0.09263		mg/Kg		93	70 - 130
Ethylbenzene	0.100	0.09502		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	0.200	0.1926		mg/Kg		96	70 - 130
o-Xylene	0.100	0.09491		mg/Kg		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: LCSD 880-19014/2-A

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19014

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1006		mg/Kg		101	70 - 130	4	35
Toluene	0.100	0.1058		mg/Kg		106	70 - 130	13	35
Ethylbenzene	0.100	0.1103		mg/Kg		110	70 - 130	15	35
m-Xylene & p-Xylene	0.200	0.2297		mg/Kg		115	70 - 130	18	35
o-Xylene	0.100	0.1138		mg/Kg		114	70 - 130	18	35

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

Lab Sample ID: 880-11145-A-11-A MS

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19014

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.101	0.07778		mg/Kg		77	70 - 130
Toluene	<0.00199	U	0.101	0.08575		mg/Kg		85	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

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

Lab Sample ID: 880-11145-A-11-A MS

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19014

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U	0.101	0.08978		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1859		mg/Kg		92	70 - 130
o-Xylene	<0.00199	U	0.101	0.09811		mg/Kg		97	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	74		70 - 130

Lab Sample ID: 880-11145-A-11-B MSD

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19014

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.08904		mg/Kg		90	70 - 130	14	35
Toluene	<0.00199	U	0.0990	0.08922		mg/Kg		90	70 - 130	4	35
Ethylbenzene	<0.00199	U	0.0990	0.09292		mg/Kg		92	70 - 130	3	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1908		mg/Kg		96	70 - 130	3	35
o-Xylene	<0.00199	U	0.0990	0.09456		mg/Kg		96	70 - 130	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

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

Lab Sample ID: MB 880-19048/1-A

Matrix: Solid

Analysis Batch: 18980

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19048

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		02/10/22 13:28	02/10/22 20:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/10/22 13:28	02/10/22 20:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/10/22 13:28	02/10/22 20:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	02/10/22 13:28	02/10/22 20:24	1
o-Terphenyl	99		70 - 130	02/10/22 13:28	02/10/22 20:24	1

Lab Sample ID: LCS 880-19048/2-A

Matrix: Solid

Analysis Batch: 18980

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19048

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	960.7		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	1000	944.6		mg/Kg		94	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

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

Lab Sample ID: LCS 880-19048/2-A
Matrix: Solid
Analysis Batch: 18980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19048

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: LCSD 880-19048/3-A
Matrix: Solid
Analysis Batch: 18980

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 19048

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1022		mg/Kg		102	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	1000	1026		mg/Kg		103	70 - 130	8	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	112		70 - 130

Lab Sample ID: 890-1919-A-1-D MS
Matrix: Solid
Analysis Batch: 18980

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 19048

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	532		1000	1613		mg/Kg		108	70 - 130		
Diesel Range Organics (Over C10-C28)	2800	F1	1000	3100	F1	mg/Kg		30	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	82		70 - 130

Lab Sample ID: 890-1919-A-1-E MSD
Matrix: Solid
Analysis Batch: 18980

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 19048

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	532		998	1549		mg/Kg		102	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	2800	F1	998	3065	F1	mg/Kg		26	70 - 130	1	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	120		70 - 130
o-Terphenyl	85		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

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

Lab Sample ID: MB 880-19049/1-A

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19049

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		02/10/22 13:35	02/11/22 22:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/10/22 13:35	02/11/22 22:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/10/22 13:35	02/11/22 22:47	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	65	S1-	70 - 130				02/10/22 13:35	02/11/22 22:47	1
o-Terphenyl	69	S1-	70 - 130				02/10/22 13:35	02/11/22 22:47	1

Lab Sample ID: LCS 880-19049/2-A

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	956.4		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	1000	965.5		mg/Kg		97	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	99		70 - 130				
o-Terphenyl	93		70 - 130				

Lab Sample ID: LCSD 880-19049/3-A

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19049

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	894.9		mg/Kg		89	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	899.1		mg/Kg		90	70 - 130	7	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	99		70 - 130						
o-Terphenyl	93		70 - 130						

Lab Sample ID: 890-1924-A-9-C MS

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	966.1		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	886.7		mg/Kg		85	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

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

Lab Sample ID: 890-1924-A-9-C MS

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19049

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	75		70 - 130
o-Terphenyl	68	S1-	70 - 130

Lab Sample ID: 890-1924-A-9-D MSD

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	989.0		mg/Kg		97	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	917.3		mg/Kg		89	70 - 130	3	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	77		70 - 130
o-Terphenyl	68	S1-	70 - 130

Lab Sample ID: MB 880-19055/1-A

Matrix: Solid

Analysis Batch: 19245

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19055

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		02/10/22 14:29	02/13/22 10:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/10/22 14:29	02/13/22 10:50	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/10/22 14:29	02/13/22 10:50	1

	MB	MB					Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits				02/10/22 14:29	02/13/22 10:50	1
1-Chlorooctane	78		70 - 130				02/10/22 14:29	02/13/22 10:50	1
o-Terphenyl	82		70 - 130				02/10/22 14:29	02/13/22 10:50	1

Lab Sample ID: LCS 880-19055/2-A

Matrix: Solid

Analysis Batch: 19245

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19055

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	968.2		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	1000	939.3		mg/Kg		94	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	106		70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

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

Lab Sample ID: LCSD 880-19055/3-A

Matrix: Solid

Analysis Batch: 19245

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19055

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1021		mg/Kg		102	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	1000	1008		mg/Kg		101	70 - 130	7	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	106		70 - 130						
o-Terphenyl	114		70 - 130						

Lab Sample ID: 880-11152-A-21-C MS

Matrix: Solid

Analysis Batch: 19245

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19055

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1053		mg/Kg		103	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	883.9		mg/Kg		88	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	63	S1-	70 - 130								
o-Terphenyl	63	S1-	70 - 130								

Lab Sample ID: 880-11152-A-21-D MSD

Matrix: Solid

Analysis Batch: 19245

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19055

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1045		mg/Kg		102	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	905.8		mg/Kg		91	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	65	S1-	70 - 130								
o-Terphenyl	64	S1-	70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-19422/1-A

Matrix: Solid

Analysis Batch: 19575

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			02/19/22 08:32	1

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QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-19422/2-A
Matrix: Solid
Analysis Batch: 19575

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	237.4		mg/Kg		95	90 - 110

Lab Sample ID: LCSD 880-19422/3-A
Matrix: Solid
Analysis Batch: 19575

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	237.5		mg/Kg		95	90 - 110	0	20

Lab Sample ID: 890-1927-2 MS
Matrix: Solid
Analysis Batch: 19575

Client Sample ID: SW18
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5230	F1	4990	9457	F1	mg/Kg		85	90 - 110

Lab Sample ID: 890-1927-2 MSD
Matrix: Solid
Analysis Batch: 19575

Client Sample ID: SW18
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5230	F1	4990	9514	F1	mg/Kg		86	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

GC VOA

Prep Batch: 19014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-1	SW17	Total/NA	Solid	5035	
890-1927-2	SW18	Total/NA	Solid	5035	
890-1927-3	SW19	Total/NA	Solid	5035	
890-1927-4	SW20	Total/NA	Solid	5035	
890-1927-5	SW21	Total/NA	Solid	5035	
890-1927-6	SW22	Total/NA	Solid	5035	
890-1927-7	SW23	Total/NA	Solid	5035	
MB 880-19014/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-19014/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-19014/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11145-A-11-A MS	Matrix Spike	Total/NA	Solid	5035	
880-11145-A-11-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 19116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-1	SW17	Total/NA	Solid	8021B	19014
890-1927-2	SW18	Total/NA	Solid	8021B	19014
890-1927-3	SW19	Total/NA	Solid	8021B	19014
890-1927-4	SW20	Total/NA	Solid	8021B	19014
890-1927-5	SW21	Total/NA	Solid	8021B	19014
890-1927-6	SW22	Total/NA	Solid	8021B	19014
890-1927-7	SW23	Total/NA	Solid	8021B	19014
MB 880-19014/5-A	Method Blank	Total/NA	Solid	8021B	19014
LCS 880-19014/1-A	Lab Control Sample	Total/NA	Solid	8021B	19014
LCSD 880-19014/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	19014
880-11145-A-11-A MS	Matrix Spike	Total/NA	Solid	8021B	19014
880-11145-A-11-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	19014

Analysis Batch: 19350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-2	SW18	Total/NA	Solid	Total BTEX	
890-1927-3	SW19	Total/NA	Solid	Total BTEX	
890-1927-4	SW20	Total/NA	Solid	Total BTEX	
890-1927-5	SW21	Total/NA	Solid	Total BTEX	
890-1927-6	SW22	Total/NA	Solid	Total BTEX	
890-1927-7	SW23	Total/NA	Solid	Total BTEX	

Analysis Batch: 19367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-1	SW17	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 18980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-5	SW21	Total/NA	Solid	8015B NM	19048
890-1927-6	SW22	Total/NA	Solid	8015B NM	19048
MB 880-19048/1-A	Method Blank	Total/NA	Solid	8015B NM	19048
LCS 880-19048/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	19048
LCSD 880-19048/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	19048
890-1919-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	19048

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

GC Semi VOA (Continued)

Analysis Batch: 18980 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1919-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	19048

Prep Batch: 19048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-5	SW21	Total/NA	Solid	8015NM Prep	
890-1927-6	SW22	Total/NA	Solid	8015NM Prep	
MB 880-19048/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-19048/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-19048/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1919-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1919-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 19049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-1	SW17	Total/NA	Solid	8015NM Prep	
890-1927-2	SW18	Total/NA	Solid	8015NM Prep	
890-1927-3	SW19	Total/NA	Solid	8015NM Prep	
890-1927-4	SW20	Total/NA	Solid	8015NM Prep	
MB 880-19049/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-19049/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-19049/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1924-A-9-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1924-A-9-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 19055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-7	SW23	Total/NA	Solid	8015NM Prep	
MB 880-19055/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-19055/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-19055/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-11152-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-11152-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 19105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-1	SW17	Total/NA	Solid	8015B NM	19049
890-1927-2	SW18	Total/NA	Solid	8015B NM	19049
890-1927-3	SW19	Total/NA	Solid	8015B NM	19049
890-1927-4	SW20	Total/NA	Solid	8015B NM	19049
MB 880-19049/1-A	Method Blank	Total/NA	Solid	8015B NM	19049
LCS 880-19049/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	19049
LCSD 880-19049/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	19049
890-1924-A-9-C MS	Matrix Spike	Total/NA	Solid	8015B NM	19049
890-1924-A-9-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	19049

Analysis Batch: 19245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-7	SW23	Total/NA	Solid	8015B NM	19055
MB 880-19055/1-A	Method Blank	Total/NA	Solid	8015B NM	19055
LCS 880-19055/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	19055
LCSD 880-19055/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	19055

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QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

GC Semi VOA (Continued)

Analysis Batch: 19245 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11152-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	19055
880-11152-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	19055

Analysis Batch: 19504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-7	SW23	Total/NA	Solid	8015 NM	

Analysis Batch: 19741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-1	SW17	Total/NA	Solid	8015 NM	
890-1927-2	SW18	Total/NA	Solid	8015 NM	
890-1927-3	SW19	Total/NA	Solid	8015 NM	
890-1927-4	SW20	Total/NA	Solid	8015 NM	
890-1927-5	SW21	Total/NA	Solid	8015 NM	
890-1927-6	SW22	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 19422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-1	SW17	Soluble	Solid	DI Leach	
890-1927-2	SW18	Soluble	Solid	DI Leach	
890-1927-3	SW19	Soluble	Solid	DI Leach	
890-1927-4	SW20	Soluble	Solid	DI Leach	
890-1927-5	SW21	Soluble	Solid	DI Leach	
890-1927-6	SW22	Soluble	Solid	DI Leach	
890-1927-7	SW23	Soluble	Solid	DI Leach	
MB 880-19422/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19422/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19422/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1927-2 MS	SW18	Soluble	Solid	DI Leach	
890-1927-2 MSD	SW18	Soluble	Solid	DI Leach	

Analysis Batch: 19575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1927-1	SW17	Soluble	Solid	300.0	19422
890-1927-2	SW18	Soluble	Solid	300.0	19422
890-1927-3	SW19	Soluble	Solid	300.0	19422
890-1927-4	SW20	Soluble	Solid	300.0	19422
890-1927-5	SW21	Soluble	Solid	300.0	19422
890-1927-6	SW22	Soluble	Solid	300.0	19422
890-1927-7	SW23	Soluble	Solid	300.0	19422
MB 880-19422/1-A	Method Blank	Soluble	Solid	300.0	19422
LCS 880-19422/2-A	Lab Control Sample	Soluble	Solid	300.0	19422
LCSD 880-19422/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19422
890-1927-2 MS	SW18	Soluble	Solid	300.0	19422
890-1927-2 MSD	SW18	Soluble	Solid	300.0	19422

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Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Client Sample ID: SW17

Lab Sample ID: 890-1927-1

Date Collected: 02/09/22 09:20

Matrix: Solid

Date Received: 02/09/22 13:11

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	19014	02/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/11/22 17:10	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19367	02/14/22 10:01	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 06:43	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		20			19575	02/19/22 10:53	CH	XEN MID

Client Sample ID: SW18

Lab Sample ID: 890-1927-2

Date Collected: 02/09/22 09:26

Matrix: Solid

Date Received: 02/09/22 13:11

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	19014	02/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/11/22 17:30	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 07:04	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		20			19575	02/19/22 11:02	CH	XEN MID

Client Sample ID: SW19

Lab Sample ID: 890-1927-3

Date Collected: 02/09/22 09:35

Matrix: Solid

Date Received: 02/09/22 13:11

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	19014	02/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/11/22 17:51	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 07:26	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		20			19575	02/19/22 11:29	CH	XEN MID

Client Sample ID: SW20

Lab Sample ID: 890-1927-4

Date Collected: 02/09/22 09:38

Matrix: Solid

Date Received: 02/09/22 13:11

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	19014	02/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/11/22 18:11	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID

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Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Client Sample ID: SW20

Lab Sample ID: 890-1927-4

Date Collected: 02/09/22 09:38

Matrix: Solid

Date Received: 02/09/22 13:11

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			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 07:48	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		20			19575	02/19/22 11:37	CH	XEN MID

Client Sample ID: SW21

Lab Sample ID: 890-1927-5

Date Collected: 02/09/22 09:42

Matrix: Solid

Date Received: 02/09/22 13:11

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	19014	02/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/11/22 18:32	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19048	02/10/22 13:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1			18980	02/11/22 02:47	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		20			19575	02/19/22 12:04	CH	XEN MID

Client Sample ID: SW22

Lab Sample ID: 890-1927-6

Date Collected: 02/09/22 09:45

Matrix: Solid

Date Received: 02/09/22 13:11

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	19014	02/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/11/22 18:52	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	19048	02/10/22 13:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1			18980	02/11/22 03:09	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		50			19575	02/19/22 12:13	CH	XEN MID

Client Sample ID: SW23

Lab Sample ID: 890-1927-7

Date Collected: 02/09/22 09:47

Matrix: Solid

Date Received: 02/09/22 13:11

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	19014	02/11/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/11/22 19:13	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19504	02/15/22 13:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19055	02/10/22 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19245	02/13/22 17:05	AJ	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Client Sample ID: SW23
Date Collected: 02/09/22 09:47
Date Received: 02/09/22 13:11

Lab Sample ID: 890-1927-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		10			19575	02/19/22 12:22	CH	XEN MID

Laboratory References:

XEN MID = Eurofins 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 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Laboratory: Eurofins 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 17-6

Job ID: 890-1927-1
SDG: 31403360.01

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

Sample Summary

Client: WSP USA Inc.
Project/Site: RDX 17-6

Job ID: 890-1927-1
SDG: 31403360.01

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1927-1	SW17	Solid	02/09/22 09:20	02/09/22 13:11	0 - 4
890-1927-2	SW18	Solid	02/09/22 09:26	02/09/22 13:11	0 - 4
890-1927-3	SW19	Solid	02/09/22 09:35	02/09/22 13:11	0 - 4
890-1927-4	SW20	Solid	02/09/22 09:38	02/09/22 13:11	0 - 4
890-1927-5	SW21	Solid	02/09/22 09:42	02/09/22 13:11	0 - 4
890-1927-6	SW22	Solid	02/09/22 09:45	02/09/22 13:11	0 - 4
890-1927-7	SW23	Solid	02/09/22 09:47	02/09/22 13:11	0 - 4



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) 820-2000

Work Order No: _____
www.xenco.com Page 1 of 1

Chain of Custody

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	WSP USA Inc., Permian office	Company Name:	WPX Energy
Address:	3300 North A St. Bldg 1, Unit 222	Address:	5315 Buena Vista Dr.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carsbad NM, 88220
Phone:	781-702-2329	Email:	travis.casey@wsp.com, kalei.jennings@wsp.com, dan.moir@wsp.com

Program: UST/PST ☒ State of Project: NM Reporting Level: I ☐ II ☐ III ☐ IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other: ☐		Work Order Comments Program: UST/PST ☒ PP ☒ Brownfields ☒ RRC ☒ Superfund ☐ State of Project: NM Reporting Level: I ☐ II ☐ III ☐ IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other: ☐
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Project Name:	RDX 17-6	Turn Around	
Project Number:	31403360.01	Routine	X
P.O. Number:	nRM0019548894	Rush:	
Sampler's Name:	Travis Casey	Due Date:	

SAMPLE RECEIPT	Temp Blank:	☒ Yes ☒ No	Wet Ice:	☒ Yes ☒ No
Temperature (°C):	1.8 / 1.6	Thermometer ID		
Received In tact:	☒ Yes ☒ No	Correction Factor:		
Cooler Custody Seals:	Yes ☒ No ☒ MA	Total Containers:		
Sample Custody Seals:	Yes ☒ No ☒ MA	Total Containers:		

890-1927 Chain of Custody



Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST	Work Order Notes
SW17	S	2/9/2022	9:20	0-4'	1	X	X	X		
SW18	S	2/9/2022	9:26	0-4'	1	X	X	X		
SW19	S	2/9/2022	9:35	0-4'	1	X	X	X		
SW20	S	2/9/2022	9:38	0-4'	1	X	X	X		
SW21	S	2/9/2022	9:42	0-4'	1	X	X	X		
SW22	S	2/9/2022	9:45	0-4'	1	X	X	X		
SW23	S	2/9/2022	9:47	0-4'	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
		2/9/22 1:11			

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1927-1

SDG Number: 31403360.01

Login Number: 1927

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1927-1

SDG Number: 31403360.01

Login Number: 1927

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/10/22 12:21 PM

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



APPENDIX F

Correspondence Emails

Moreno, Gilbert

From: Byers, Anna
Sent: Wednesday, March 9, 2022 9:31 AM
To: Moreno, Gilbert
Subject: FW: Final Sampling Notification December 9th through 10th, 2021

Anna Byers

Consultant, Geologist
Office + 1 575-887-0101
Mobile + 1 575-200-6754



From: Byers, Anna
Sent: Tuesday, December 7, 2021 6:41 AM
To: ocd.enviro@state.nm.us
Cc: Raley, Jim <Jim.Raley@dmn.com>; Casey, Travis <Travis.Casey@wsp.com>; Hernandez, Joseph <Joe.Hernandez@wsp.com>
Subject: Final Sampling Notification December 9th through 10th, 2021

Good morning,

WPX anticipates completing final sampling activities at the following site during Dec 9th through 10th, 2021:

WSP

Site: RDX 17 Federal Com #006H
API: 30-015-39308
Incident ID: NRM2019548894
Release Date: 07/05/2020

Thank you,

Anna Byers

Consultant, Geologist
Please note the new email address.



Email: anna.byers@wsp.com
Office: + 1 575-887-0101
Mobile: + 1 575-200-6754

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

wsp.com

Moreno, Gilbert

From: Byers, Anna
Sent: Wednesday, March 9, 2022 9:31 AM
To: Moreno, Gilbert
Subject: FW: Final Sampling Notification for Week Ending December 17th, 2021

Anna Byers

Consultant, Geologist
Office + 1 575-887-0101
Mobile + 1 575-200-6754



From: Byers, Anna
Sent: Friday, December 10, 2021 4:22 PM
To: ocd.enviro@state.nm.us
Cc: Raley, Jim <Jim.Raley@dmn.com>; Hernandez, Joseph <Joe.Hernandez@wsp.com>
Subject: Final Sampling Notification for Week Ending December 17th, 2021

Good afternoon,

WPX anticipates completing final sampling activities at the following sites during next week:

Dec 14th through 17th, 2021

WSP

Site: RDX 17 Federal Com #006H
API: 30-015-39308
Incident ID: NRM2019548894
Release Date: 07/05/2020

Site: RDX Federal Com 17 #026H
API: 30-015-42752
Incident ID: napp2134444397
Release Date: 12/07/2021

Thank you,

Anna Byers

Consultant, Geologist
Please note the new email address.



Email: anna.byers@wsp.com
Office: + 1 575-887-0101
Mobile: + 1 575-200-6754

WSP USA

508 West Stevens Street
Carlsbad, New Mexico 88220

wsp.com

Moreno, Gilbert

From: Byers, Anna
Sent: Wednesday, March 9, 2022 9:30 AM
To: Moreno, Gilbert
Subject: FW: Final Sampling Notification through Week Ending January 14, 2021

Anna Byers

Consultant, Geologist
Office + 1 575-887-0101
Mobile + 1 575-200-6754



From: Byers, Anna <Anna.Byers@wsp.com>
Sent: Tuesday, January 4, 2022 6:58 AM
To: ocd.enviro@state.nm.us
Cc: Hernandez, Joseph <Joe.Hernandez@wsp.com>; Raley, Jim <Jim.Raley@dmv.com>
Subject: Final Sampling Notification through Week Ending January 14, 2021

Good morning,

WPX anticipates completing final sampling activities at the following site during Jan 6th through 14th, 2021:

WSP

Site: RDX 17 Federal Com #006H
API: [30-015-39308](#)
Incident ID: NRM2019548894
Release Date: 07/05/2020

Thank you,
Anna

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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 151388

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 151388
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scott.rodgers	App ID 151388: Remediation addendum approved. Please include BLM approval in final report. Remediation due date updated to 04/25/2024.	1/26/2024