

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

QUESTIONS

Action 30617

QUESTIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 30617
	Action Type: [NOTIFY] Notification Of Release (NOR)

QUESTIONS

Location of Release Source	
<i>Please answer all of the questions in this group.</i>	
Site Name	RDX Federal 21 #044
Date Release Discovered	06/03/2021
Surface Owner	Federal

Incident Details	
<i>Please answer all of the questions in this group.</i>	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
<i>Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure Valve Produced Water Spilled: 200 BBL Recovered: 150 BBL Lost: 50 BBL]
Is the concentration of dissolved chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.
Was this a major release as defined by 19.15.29.7(A) NMAC	Yes, major release.
Reasons why this would be considered a submission for a notification of a major release	<ul style="list-style-type: none"> Unauthorized release of a volume, excluding gases, of 25 barrels or more
If YES, was immediate notice given to the OCD, by whom	Not answered.
If YES, was immediate notice given to the OCD, to whom	Not answered.
If YES, was immediate notice given to the OCD, when	Not answered.
If YES, was immediate notice given to the OCD, by what means (phone, email, etc)	Not answered.
<i>With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.</i>	

Initial Response	
<i>The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.</i>	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.
<i>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 prepare and attach a narrative of actions to date in the follow-up C-141 submission. 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 prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.</i>	

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

ACKNOWLEDGMENTS

Action 30617

ACKNOWLEDGMENTS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 30617
	Action Type: [NOTIFY] Notification Of Release (NOR)

ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	I acknowledge that I am authorized to submit notification of a releases on behalf of my operator.
<input checked="" type="checkbox"/>	I acknowledge that upon submitting this application, I will be creating a new incident file (assigned to my operator) to track the notification(s) and corrective action(s) for a release, pursuant to NMAC 19.15.29.
<input checked="" type="checkbox"/>	I acknowledge that creating a new incident file will require my operator to file subsequent submission(s) of form "C-141, Application for administrative approval of a release notification and corrective action", pursuant to NMAC 19.15.29.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	I acknowledge the fact that 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.
<input checked="" type="checkbox"/>	I acknowledge the fact that, 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.

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 30617

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 30617
	Action Type: [NOTIFY] Notification Of Release (NOR)

CONDITIONS

Created By	Condition	Condition Date
system	When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141.	6/4/2021

Incident ID	nAPP2115533694
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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


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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	nAPP2115533694
District RP	
Facility ID	
Application ID	

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

Printed Name: Lynda Laumbach Title: Environmental Professional
Signature:  Date: 08/26/2021
email: lynda.laumbach@dvn.com Telephone: 575-725-1647

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2115533694
District RP	
Facility ID	
Application ID	

Remediation Plan

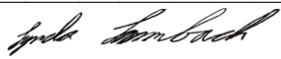
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ 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: Lynda Laumbach Title: Environmental Professional
Signature:  Date: 08/26/2021
email: lynda.laumbach@dnv.com Telephone: 575-725-1647

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	nAPP2115533694
District RP	
Facility ID	
Application ID	

Remediation Plan

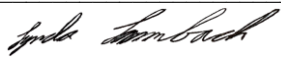
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ 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: Lynda Laumbach Title: Environmental Professional
Signature:  Date: 08/26/2021
email: lynda.laumbach@dvn.com Telephone: 575-725-1647

OCD Only

Received by: Robert Hamlet Date: 1/10/2022

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

Signature:  Date: 1/10/2022



WSP USA

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

August 23, 2021

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

**RE: Remediation Work Plan
RDX Federal 21 #044
Incident Number nAPP2115533694
Eddy County, New Mexico
WPX Energy Permian, LLC.**

To Whom it May Concern:

WSP USA Inc. (WSP), on behalf of WPX Energy Permian, LLC. (WPX), presents the following Remediation Work Plan detailing site assessment, previous soil sampling activities, and a proposed remediation plan at the RDX Federal 21 #044 (Site), located in Unit P, Section 21 Township 26 South, Range 30 East, Eddy County, New Mexico (Figure 1). Based on field observations, field screening activities, and laboratory analytical results from soil sampling activities, WPX is submitting this Remediation Work Plan, describing the site assessment and soil sampling that has occurred and proposed remedial activities.

RELEASE BACKGROUND

On June 3, 2021, a valve failure caused the release of approximately 200 barrels (bbls) of produced water onto the adjacent right-of-way (ROW). A vacuum truck was dispatched to the Site to recover free-standing fluid; approximately 150 bbls of produced water were recovered. WPX reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on June 4, 2021 and was subsequently assigned Incident Number nAPP2115533694.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on data collected from a recently drilled soil boring. On December 9, 2020, WPX advanced a soil boring to approximately 110 feet bgs, which is located approximately 0.15 miles west of the Site. The boring was left open for at least 72 hours to allow for possible groundwater to equilibrate. No groundwater was encountered during drilling activity



nor observed post the 72-hour waiting period. The referenced boring record is included as Attachment 1.

The closest continuously flowing or significant watercourse to the Site is an intermittent riverine, located approximately 760 feet east to southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Site receptors are identified on Figure 1.

CLOSURE CRITERIA

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

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

The reclamation requirement for removal of waste containing soil with chloride and TPH concentrations of 600 mg/kg and 100 mg/kg, respectively, applies to the top 4 feet of the pasture to be reclaimed following remediation, per NMAC 19.15.29.13.D (1).

SITE ASSESSMENT ACTIVITIES

On June 4, 2021, WSP personnel conducted site assessment activities to evaluate the release extent. Additionally, WSP reviewed and verified the Form C-141 incident descriptions (release source and release location) with visual soil impacts present onsite; it was confirmed that the subject release was contained to the ROW and crowded pipeline corridor.

WSP personnel collected one representative surface sample nearest to the release source. The soil sample was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Based on elevated field screening results, the soil sample was not submitted for laboratory analysis. The release extent was mapped using a handheld Global Positioning System (GPS) unit and measured 13,250 square feet (Figure 2). Based on visual observation and results from



field screening, remediation of impacted soils appeared warranted. Photographs documenting the site visit are included in Attachment 2.

DELINEATION SOIL SAMPLING ACTIVITIES

On July 8, 2021, WSP personnel visited the Site for further evaluation of the release extent and proceeded to advance nine delineation boreholes (BH01 through BH09) within and around the mapped release extent. Delineation depths were driven by field screening soil samples for chloride and volatile aromatic hydrocarbons. WSP collected three discrete soil samples per borehole at the following depth intervals: 1 to 1.5 feet bgs, 2 to 2.5 feet bgs, and 4 to 4.5 feet bgs. The borehole locations were mapped utilizing a GPS unit and are depicted on Figure 2. Lithologic sampling logs are included in Attachment 3.

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

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH concentrations for all borehole samples were compliant with Closure Criteria. Chloride concentrations from sample intervals shallower than 4 feet bgs at boreholes BH01 through BH03 and BH05 exceeded chloride concentration per the reclamation criteria. The laboratory analytical results are summarized on the attached Table 1 and complete laboratory analytical reports are included in Attachment 4.

PROPOSED WORK PLAN OPTIONS

Impacts have been vertically defined through soil borings advanced within the release footprint and range from 1.5 to 4 feet bgs. Boreholes BH06 through BH09 representatively define the lateral migration of impacts to the north, east and south. Horizontal delineation to the west will be further defined through delineation soil sampling or 5-point composite sidewall samples following the removal of residual impacts. Based on analytical data associated with borehole BH05, impacts appear to be limited to the top 1.5 feet but will be verified during excavation and confirmation sampling activities. An estimated 1,961 cubic yards of soil is impacted by the subject release based on soil sampling activities and visual observation. Due to the proximity of subsurface and aboveground utilities, WPX will coordinate with internal or third-party pipeline groups for safety guidance associated with soil disturbance near utilities. If impacted soil cannot be safely removed at this time, WPX will provide supporting risk documentation for NMOCD review.

District II
Page 4

Impacted soil will be excavated pursuant to NMAC 19.15.29 to ensure extent of the contaminated soil not meeting the Closure Criteria 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 treatment¹. If the on-site treatment is selected, non-waste containing soils will be treated soils with each confirmation sample testing below the most protective concentrations in Table I of 19.15.29.12 NMAC and representing no more than 100 cubic yards.

PROPOSED SAMPLING

WPX is requesting a variance to the 200 square foot confirmation sampling requirement for the areas to be excavated, which would require an estimated 67 floor samples within the release extent, excluding sidewall samples. Due to the large extent of the impacted area (13,250 square feet), WSP proposes increasing the confirmation sampling size to collecting a 5-point composite sample to represent each 500 square foot area for the floors and sidewalls of the excavation.

PROPOSED SCHEDULE

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

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

Sincerely,

WSP USA Inc.

A handwritten signature in black ink that reads 'Anna Byers'.

Anna Byers
Consultant, Geologist

A handwritten signature in black ink that appears to read 'D. R. Moir'.

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

¹ SA-1000™ (manufactured by 3 Tier™ Technologies) is the proposed agent to assist with the treatment of chloride impacted soil. A FAQ overview sheet is included as Attachment 5.



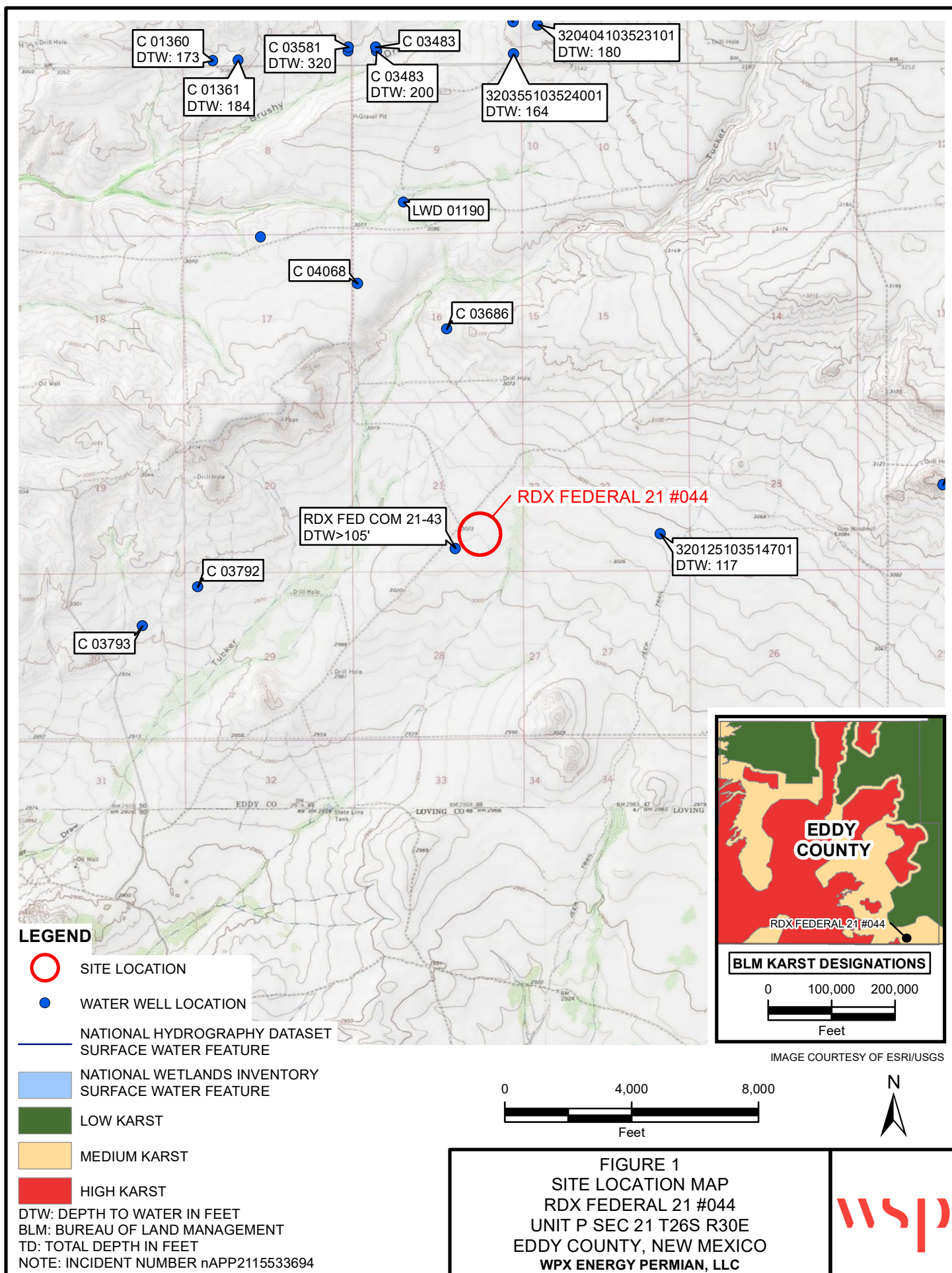
District II
Page 5

cc: Lynda Laumbach, Devon
Bureau of Land Management

Attachments:

Figure 1 Site Location Map
Figure 2 Delineation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Referenced Well Record
Attachment 2 Photographic Log
Attachment 3 Lithologic/Soil Sampling Log
Attachment 4 Laboratory Analytical Reports
Attachment 5 FAQ – Bio-Regen SA-1000 For Salt Remediation

FIGURES



P:\WPX-Devon\GIS\1403360.000.0348_RDX FEDERAL 21 #044\MXD\1403360.000.0348_FIG01_SL_RECEPTOR_2021.mxd

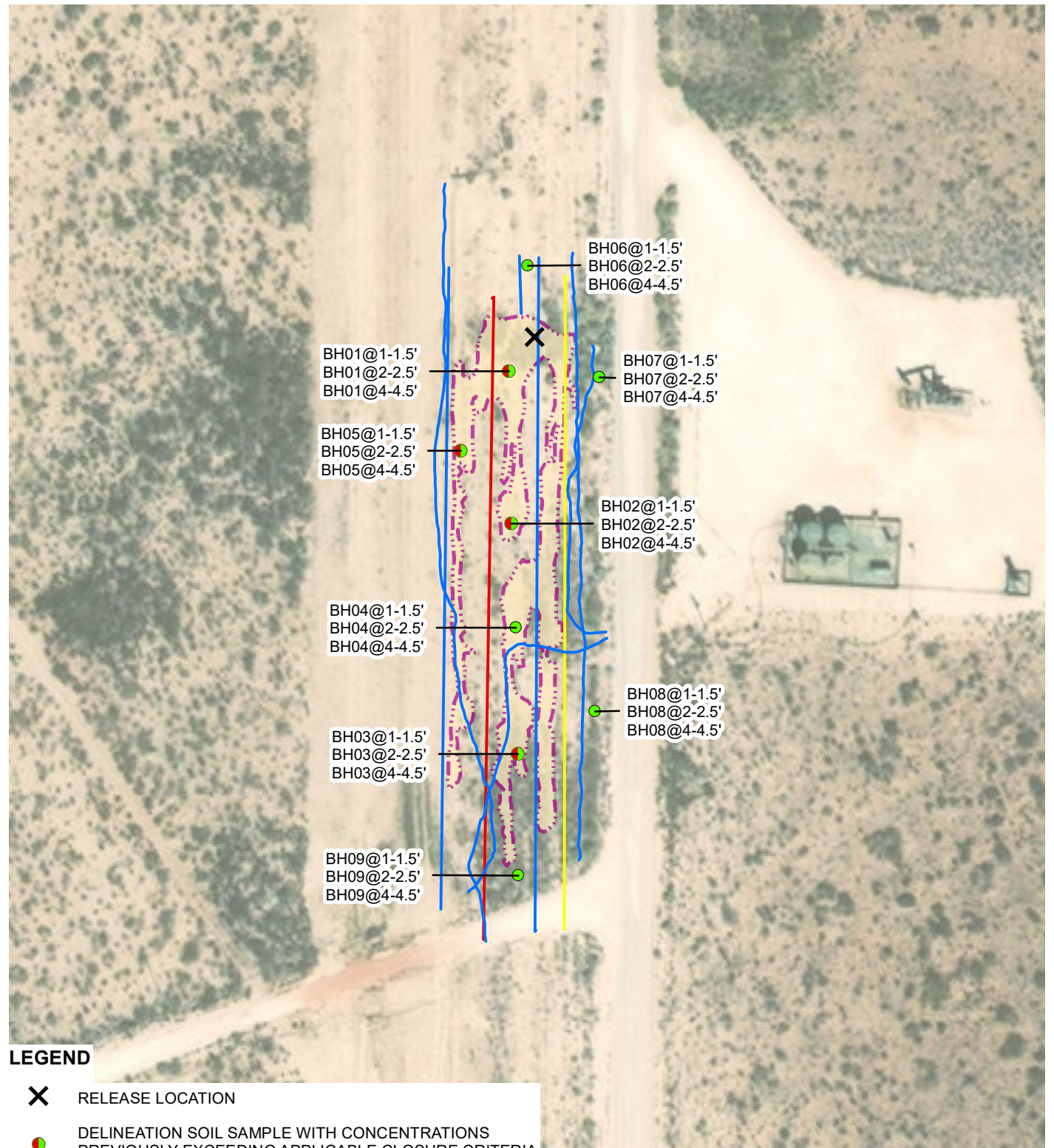
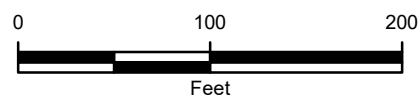


IMAGE COURTESY OF ESRI

**LEGEND**

- X** RELEASE LOCATION
- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- ELECTRIC LINE
- GAS LINE
- WATER LINE
- RELEASE EXTENT

NOTE: INCIDENT NUMBER nAPP2115533694
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
RDX FEDERAL 21 #044
UNIT P SEC 21 T26S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



TABLES

Table 1

Soil Analytical Results
RDX Federal 21 #044
Incident Number nAPP2115533694
Eddy County, New Mexico
WPX Energy Permian, LLC.

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Samples										
BH01	07/08/2021	1 - 1.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	18,100*
BH01	07/08/2021	2 - 2.5	<0.00202	<0.00404	<49.8	<49.8	<49.8	<49.8	<49.8	13,900*
BH01	07/08/2021	4 - 4.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	1,850
BH02	07/08/2021	1 - 1.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	6,080*
BH02	07/08/2021	2 - 2.5	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	10,500*
BH02	07/08/2021	4 - 4.5	<0.00199	<0.00398	<49.7	<49.7	<49.7	<49.7	<49.7	179
BH03	07/08/2021	1 - 1.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	6,900*
BH03	07/08/2021	2 - 2.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	5,400*
BH03	07/08/2021	4 - 4.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	2,980
BH04	07/08/2021	1 - 1.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	62.6
BH04	07/08/2021	2 - 2.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	<5.00
BH04	07/08/2021	4 - 4.5	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	123
BH05	07/08/2021	1 - 1.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	14,000*
BH05	07/08/2021	2 - 2.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	452
BH05	07/08/2021	4 - 4.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	16.8
BH06	07/08/2021	1 - 1.5	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	81.4
BH06	07/08/2021	2 - 2.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	14.3
BH06	07/08/2021	4 - 4.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<4.95

Table 1

Soil Analytical Results
RDX Federal 21 #044
Incident Number nAPP2115533694
Eddy County, New Mexico
WPX Energy Permian, LLC.

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
BH07	07/08/2021	1 - 1.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	8.93
BH07	07/08/2021	2 - 2.5	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	12.3
BH07	07/08/2021	4 - 4.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	97.8
BH08	07/08/2021	1 - 1.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	12.1
BH08	07/08/2021	2 - 2.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	26.7
BH08	07/08/2021	4 - 4.5	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	21.8
BH09	07/08/2021	1 - 1.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	116
BH09	07/08/2021	2 - 2.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	435
BH09	07/08/2021	4 - 4.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	371

Notes:

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

ORO - oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code

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

NE - Not Established


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

Greyed data represents samples that were excavated

* - indicates sample was collected in area to be reclaimed after remediation is complete;

closure criteria in the top 4 feet of soil is 100 mg/kg for TPH and 600 mg/kg for chloride.

ATTACHMENT 1: REFERENCED WELL RECORD

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

ATTACHMENT 2: PHOTOGRAPHIC LOG

**PHOTOGRAPHIC LOG**

WPX Energy Permian, LLC.	RDX Federal 21 #044 Eddy County, NM	31403360.000.0348
-------------------------------------	--	--------------------------



Photo No.	Date	
1	June 4, 2021	
Excavation of initial repair of the release source		 A photograph showing a deep, rectangular excavation in dry, brown soil. A red safety tape is strung across the top of the pit. In the background, there are industrial structures, including a large cylindrical tank and a red building, under a clear blue sky.

Photo No.	Date	
2	June 4, 2021	
Release extent facing south, down pipeline right of way		 A photograph showing a long, straight stretch of a pipeline right-of-way in a dry, arid landscape. The ground is sandy and sparsely covered with low-lying shrubs. In the distance, several utility poles are visible against a clear blue sky.

**PHOTOGRAPHIC LOG**

WPX Energy Permian, LLC.	RDX Federal 21 #044 Eddy County, NM	31403360.000.0348
-------------------------------------	--	--------------------------

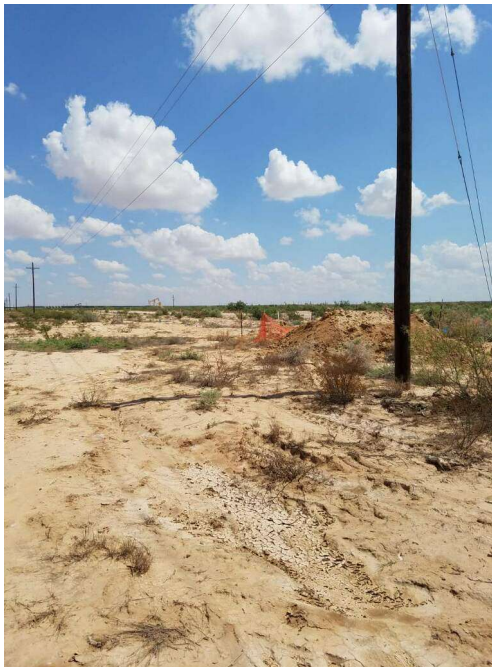

Photo No.	Date	
3	July 8, 2021	
View of northern release extent facing northeast		 A photograph showing a dry, sandy landscape with sparse, low-lying vegetation. A tall, dark utility pole stands on the right side of the frame. The sky is blue with scattered white clouds. In the distance, a line of orange safety fencing is visible.

Photo No.	Date	
4	July 8, 2021	
View of southern release extent area facing south		 A photograph showing a dry, sandy landscape with sparse, low-lying vegetation. A tall, dark utility pole stands on the left side of the frame. The sky is blue with scattered white clouds. In the distance, a line of orange safety fencing is visible.

**PHOTOGRAPHIC LOG**

WPX Energy Permian, LLC.	RDX Federal 21 #044 Eddy County, NM	31403360.000.0348
-------------------------------------	--	--------------------------

Photo No.	Date	
5	July 8, 2021	
Southern view of central release extent area		

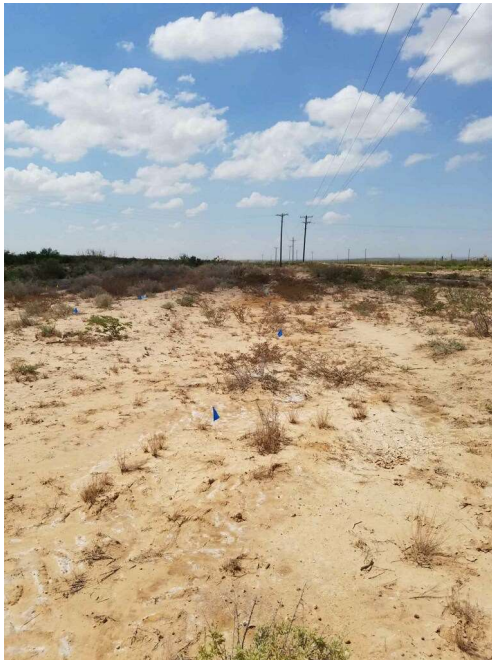





Photo No.	Date	
6	July 8, 2021	
Hand auger delineation activities		





ATTACHMENT 3: LITHOLOGIC/SAMPLING LOG


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH01		Date: 7/8/2021	
								Site Name: RDX Federal 21 #044			
								Incident Number: nAPP2115533694			
								WSP Job Number: 31403360.000.0348			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Anna Byers		Method: Hand Auger	
Lat/Long: 32.023879, -103.881775				Field Screening: Chloride		Hole Diameter: 2.5 inches		Total Depth: 4.5 feet			
Comments: Moisture Content "M" - Moist; NA - Not Analyzed; Chloride values do not include correction factor											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		Surface staining			
M	16,300	NA	No	BH01	1-1.5	1	SP	1 - 4.5' bgs: moist brown, poorly-graded SAND (f.) with some silt, no plasticity, no odor, trace roots			
M	13,284	NA	No	BH01	2-2.5	2	SP				
						3					
M	2,416	NA	No	BH01	4-4.5	4	SP				
						4.5					
Total Depth											


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH02		Date: 7/8/2021	
								Site Name: RDX Federal 21 #044			
								Incident Number: nAPP2115533694			
								WSP Job Number: 31403360.000.0348			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Anna Byers		Method: Hand Auger	
Lat/Long: 32.023584, -103.881771				Field Screening: Chloride		Hole Diameter: 2.5 inches		Total Depth: 4.5 feet			
Comments: Moisture Content "M" - Moist; NA - Not Analyzed; Chloride values do not include correction factor											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		Surface staining			
M	5,908	NA	No	BH02	1-1.5	1	SP	1 - 4' bgs: moist brown, poorly-graded SAND (f.) with some silt, no plasticity, no odor, trace roots			
M	11,104	NA	No	BH02	2-2.5	2	SP				
						3					
D	196	NA	No	BH02	4-4.5	4	SM	4 - 4.5' bgs: dry brown SILTY SAND (f.), no plasticity, no odor, trace roots			
						4.5					
Total Depth											


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH03		Date: 7/8/2021	
								Site Name: RDX Federal 21 #044			
								Incident Number: nAPP2115533694			
								WSP Job Number: 31403360.000.0348			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Anna Byers		Method: Hand Auger	
Lat/Long: 32.023137, -103.881758				Field Screening: Chloride				Hole Diameter: 2.5 inches		Total Depth: 4.5 feet	
Comments: Moisture Content "M" - Moist; NA - Not Analyzed; Chloride values do not include correction factor											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		Surface staining			
M	7,452	NA	No	BH03	1-1.5	1	SP	1 - 4.5' bgs: moist brown, poorly-graded SAND (f.) with some silt, no plasticity, no odor, trace roots			
M	9,432	NA	No	BH03	2-2.5	2	SP				
						3					
M	3,976	NA	No	BH03	4-4.5	4	SP				
						4.5					
Total Depth											


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		Sample ID: BH04		Date: 7/8/2021				
		Site Name: RDX Federal 21 #044						
		Incident Number: nAPP2115533694						
		WSP Job Number: 31403360.000.0348						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.023382, -103.881761		Field Screening: Chloride		Hole Diameter: 2.5 inches				
				Total Depth: 4.5 feet				
Comments: Chloride values do not include correction factor Moisture Content "D" - Dry; NA - Not Analyzed; BDL - Below Detection Limit of Low Range HACH Chloride Test Strips								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	120	NA	No	BH04	1-1.5	1	SP	surface - 2' bgs: dry brown poorly-graded SAND (f.), no plasticity, no odor, trace roots
D	BDL	NA	No	BH04	2-2.5	2	SM	2 - 4.5' bgs: dry brown SILTY SAND (f.), no plasticity, no odor, trace roots
						3		
D	BDL	NA	No	BH04	4-4.5	4	SM	
						4.5		
Total Depth								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH05		Date: 7/8/2021	
								Site Name: RDX Federal 21 #044			
								Incident Number: nAPP2115533694			
								WSP Job Number: 31403360.000.0348			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Anna Byers		Method: Hand Auger	
Lat/Long: 32.023726, -103.881885				Field Screening: Chloride				Hole Diameter: 2.5 inches		Total Depth: 4.5 feet	
Comments: Chloride values do not include correction factor Moisture Content "D" - Dry; Moisture Content "M" - Moist; NA - Not Analyzed; BDL - Below Detection Limit of Low Range HACH Chloride Test Strips											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
M	12,088	NA	No	BH05	1-1.5	1	SP	surface - 2' bgs: moist brown poorly-graded SAND (f.), no plasticity, no odor, trace roots			
M	4,672	NA	No	BH05	2-2.5	2	SM				
						3					
D	BDL	NA	No	BH05	4-4.5	4	SM	dry brown SILTY SAND (f.)			
						4.5					
Total Depth											

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220						Sample ID: BH06		Date: 7/8/2021	
						Site Name: RDX Federal 21 #044			
						Incident Number: nAPP2115533694			
						WSP Job Number: 31403360.000.0348			
LITHOLOGIC / SOIL SAMPLING LOG						Logged By: Anna Byers		Method: Hand Auger	
Lat/Long: 32.024084, -103.881732			Field Screening: Chloride			Hole Diameter: 2.5 inches		Total Depth: 4.5 feet	
Comments: Chloride values do not include correction factor Moisture Content "D" - Dry; Moisture Content "M" - Moist; NA - Not Analyzed; BDL - Below Detection Limit of Low Range HACH Chloride Test Strips									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	
M	BDL	NA	No	BH06	1-1.5	1	SM	surface - 4' bgs: moist brown SILTY SAND (f.), no plasticity, trace roots, no odor	
D	120	NA	No	BH06	2-2.5	2	SM	dry brown SILTY SAND (f.), no plasticity, trace roots, no odor	
						3			
D	120	NA	No	BH06	4-4.5	4	SW	4 - 4.5' bgs: dry brown well-graded SAND (f. - c.), no plasticity, no odor	
						4.5			
Total Depth									

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220						Sample ID: BH07		Date: 7/8/2021	
						Site Name: RDX Federal 21 #044			
						Incident Number: nAPP2115533694			
						WSP Job Number: 31403360.000.0348			
LITHOLOGIC / SOIL SAMPLING LOG						Logged By: Anna Byers		Method: Hand Auger	
Lat/Long: 32.023866, -103.881570			Field Screening: Chloride			Hole Diameter: 2.5 inches		Total Depth: 4.5 feet	
Comments: Chloride values do not include correction factor Moisture Content "D" - Dry; Moisture Content "M" - Moist; NA - Not Analyzed; BDL - Below Detection Limit of Low Range HACH Chloride Test Strips									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	
M	BDL	NA	No	BH07	1-1.5	1	SM	surface - 4' bgs: brown SILTY SAND (f.), no plasticity, trace roots, no odor	
D	BDL	NA	No	BH07	2-2.5	2	SM	dry brown SILTY SAND (f.)	
						3			
D	BDL	NA	No	BH07	4-4.5	4	SW	4 - 4.5' bgs: dry brown well-graded SAND (f. - c.), no plasticity, no odor	
						4.5			
Total Depth									

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		Sample ID: BH08		Date: 7/8/2021				
		Site Name: RDX Federal 21 #044						
		Incident Number: nAPP2115533694						
		WSP Job Number: 31403360.000.0348						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.023220, -103.881583		Field Screening: Chloride		Hole Diameter: 2.5 inches				
				Total Depth: 4.5 feet				
Comments: Chloride values do not include correction factor Moisture Content "D" - Dry; Moisture Content "M" - Moist; NA - Not Analyzed; BDL - Below Detection Limit of Low Range HACH Chloride Test Strips								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
M	BDL	NA	No	BH08	1-1.5	1	SP-SM	surface to 4' bgs: moist brown poorly-graded SAND with silt and gravel, no plasticity, no odor, trace roots
M	BDL	NA	No	BH08	2-2.5	2	SP-SM	
						3		
D	BDL	NA	No	BH08	4-4.5	4	SM	
						4.5		4 - 4.5' bgs: dry brown SILTY SAND (f.), no plasticity, trace roots, no odor
Total Depth								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH09		Date: 7/8/2021	
								Site Name: RDX Federal 21 #044			
								Incident Number: nAPP2115533694			
								WSP Job Number: 31403360.000.0348			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Anna Byers		Method: Hand Auger	
Lat/Long: 32.022902, -103.881758				Field Screening: Chloride				Hole Diameter: 2.5 inches		Total Depth: 4.5 feet	
Comments: Moisture Content "D" - Dry; NA - Not Analyzed; Chloride values do not include correction factor											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0					
D	144	NA	No	BH09	1-1.5	1	SP-SM	surface to 2' bgs: dry brown poorly-graded SAND (f.) with silt and gravel, no plasticity, no odor, trace roots			
D	412	NA	No	BH09	2-2.5	2	SM	2 - 4.5' bgs: dry brown SILTY SAND (f.), no plasticity, no odor, trace roots			
						3					
D	412	NA	No	BH09	4-4.5	4	SM				
						4.5					
Total Depth											

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-914-1

Laboratory Sample Delivery Group: 31403360.000.0348

Client Project/Site: RDX Federal 21 #044

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:
7/15/2021 2:44:49 PM

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

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Laboratory Job ID: 890-914-1
SDG: 31403360.000.0348

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	15
QC Sample Results	17
QC Association Summary	22
Lab Chronicle	26
Certification Summary	30
Method Summary	31
Sample Summary	32
Chain of Custody	33
Receipt Checklists	36

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Job ID: 890-914-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-914-1

Receipt

The samples were received on 7/8/2021 4:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: BH01 (890-914-1), BH01 (890-914-2), BH01 (890-914-3), BH02 (890-914-4), BH02 (890-914-5), BH02 (890-914-6), BH03 (890-914-7), BH03 (890-914-8), BH03 (890-914-9), BH04 (890-914-10), BH04 (890-914-11), BH04 (890-914-12), BH05 (890-914-13), BH05 (890-914-14) and BH05 (890-914-15).

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH02 (890-914-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH01

Lab Sample ID: 890-914-1

Date Collected: 07/08/21 10:51

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 1 - 1.5

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		07/10/21 10:35	07/11/21 19:12	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/11/21 19:12	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/11/21 19:12	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/11/21 19:12	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/11/21 19:12	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/11/21 19:12	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/11/21 19:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	07/10/21 10:35	07/11/21 19:12	1
1,4-Difluorobenzene (Surr)	92		70 - 130	07/10/21 10:35	07/11/21 19:12	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		07/12/21 13:20	07/14/21 01:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 01:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 01:46	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 01:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130	07/12/21 13:20	07/14/21 01:46	1
o-Terphenyl	144	S1+	70 - 130	07/12/21 13:20	07/14/21 01:46	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18100		100		mg/Kg			07/12/21 22:00	20

Client Sample ID: BH01

Lab Sample ID: 890-914-2

Date Collected: 07/08/21 10:53

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/10/21 10:35	07/11/21 19:33	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/10/21 10:35	07/11/21 19:33	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/10/21 10:35	07/11/21 19:33	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/10/21 10:35	07/11/21 19:33	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/10/21 10:35	07/11/21 19:33	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/10/21 10:35	07/11/21 19:33	1
Total BTEX	<0.00404	U	0.00404		mg/Kg		07/10/21 10:35	07/11/21 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	07/10/21 10:35	07/11/21 19:33	1
1,4-Difluorobenzene (Surr)	92		70 - 130	07/10/21 10:35	07/11/21 19:33	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH01

Lab Sample ID: 890-914-2

Date Collected: 07/08/21 10:53

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

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	<49.8	U	49.8		mg/Kg		07/12/21 13:20	07/14/21 02:49	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/12/21 13:20	07/14/21 02:49	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/12/21 13:20	07/14/21 02:49	1
Total TPH	<49.8	U	49.8		mg/Kg		07/12/21 13:20	07/14/21 02:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	07/12/21 13:20	07/14/21 02:49	1
o-Terphenyl	123		70 - 130	07/12/21 13:20	07/14/21 02:49	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13900		101		mg/Kg			07/12/21 22:05	20

Client Sample ID: BH01

Lab Sample ID: 890-914-3

Date Collected: 07/08/21 10:56

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 4 - 4.5

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		07/10/21 10:35	07/11/21 19:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 19:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 19:53	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/10/21 10:35	07/11/21 19:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 19:53	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/10/21 10:35	07/11/21 19:53	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		07/10/21 10:35	07/11/21 19:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	07/10/21 10:35	07/11/21 19:53	1
1,4-Difluorobenzene (Surr)	92		70 - 130	07/10/21 10:35	07/11/21 19:53	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		07/12/21 13:20	07/14/21 03:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 03:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 03:09	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 03:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	117		70 - 130	07/12/21 13:20	07/14/21 03:09	1
o-Terphenyl	135	S1+	70 - 130	07/12/21 13:20	07/14/21 03:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1850		25.0		mg/Kg			07/12/21 22:11	5

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH02

Lab Sample ID: 890-914-4

Date Collected: 07/08/21 10:29

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 1 - 1.5

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		07/10/21 10:35	07/11/21 20:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 20:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 20:13	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/10/21 10:35	07/11/21 20:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 20:13	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/10/21 10:35	07/11/21 20:13	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		07/10/21 10:35	07/11/21 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	07/10/21 10:35	07/11/21 20:13	1
1,4-Difluorobenzene (Surr)	94		70 - 130	07/10/21 10:35	07/11/21 20:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 03:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 03:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 03:30	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 03:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	07/12/21 13:20	07/14/21 03:30	1
o-Terphenyl	124		70 - 130	07/12/21 13:20	07/14/21 03:30	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6080		49.7		mg/Kg			07/12/21 22:28	10

Client Sample ID: BH02

Lab Sample ID: 890-914-5

Date Collected: 07/08/21 10:31

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

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		07/10/21 10:35	07/11/21 20:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 20:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 20:34	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/10/21 10:35	07/11/21 20:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 20:34	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/10/21 10:35	07/11/21 20:34	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		07/10/21 10:35	07/11/21 20:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	07/10/21 10:35	07/11/21 20:34	1
1,4-Difluorobenzene (Surr)	92		70 - 130	07/10/21 10:35	07/11/21 20:34	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH02

Lab Sample ID: 890-914-5

Date Collected: 07/08/21 10:31

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

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	<49.8	U	49.8		mg/Kg		07/12/21 13:20	07/14/21 03:51	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/12/21 13:20	07/14/21 03:51	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/12/21 13:20	07/14/21 03:51	1
Total TPH	<49.8	U	49.8		mg/Kg		07/12/21 13:20	07/14/21 03:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	07/12/21 13:20	07/14/21 03:51	1
o-Terphenyl	140	S1+	70 - 130	07/12/21 13:20	07/14/21 03:51	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10500		50.2		mg/Kg			07/14/21 11:15	10

Client Sample ID: BH02

Lab Sample ID: 890-914-6

Date Collected: 07/08/21 10:33

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 4 - 4.5

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		07/10/21 10:35	07/11/21 21:55	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/11/21 21:55	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/11/21 21:55	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/11/21 21:55	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/11/21 21:55	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/11/21 21:55	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/11/21 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	07/10/21 10:35	07/11/21 21:55	1
1,4-Difluorobenzene (Surr)	93		70 - 130	07/10/21 10:35	07/11/21 21:55	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	<49.7	U	49.7		mg/Kg		07/12/21 13:20	07/14/21 04:12	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		07/12/21 13:20	07/14/21 04:12	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		07/12/21 13:20	07/14/21 04:12	1
Total TPH	<49.7	U	49.7		mg/Kg		07/12/21 13:20	07/14/21 04:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	07/12/21 13:20	07/14/21 04:12	1
o-Terphenyl	128		70 - 130	07/12/21 13:20	07/14/21 04:12	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	179		5.00		mg/Kg			07/14/21 11:20	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH03

Lab Sample ID: 890-914-7

Date Collected: 07/08/21 10:04

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 1 - 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/10/21 10:35	07/11/21 22:16	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/10/21 10:35	07/11/21 22:16	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/10/21 10:35	07/11/21 22:16	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/10/21 10:35	07/11/21 22:16	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/10/21 10:35	07/11/21 22:16	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/10/21 10:35	07/11/21 22:16	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		07/10/21 10:35	07/11/21 22:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	07/10/21 10:35	07/11/21 22:16	1
1,4-Difluorobenzene (Surr)	91		70 - 130	07/10/21 10:35	07/11/21 22:16	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	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 04:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 04:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 04:32	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 04:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	07/12/21 13:20	07/14/21 04:32	1
o-Terphenyl	125		70 - 130	07/12/21 13:20	07/14/21 04:32	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6900		49.6		mg/Kg			07/14/21 11:26	10

Client Sample ID: BH03

Lab Sample ID: 890-914-8

Date Collected: 07/08/21 10:07

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

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		07/10/21 10:35	07/11/21 22:36	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 22:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 22:36	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/10/21 10:35	07/11/21 22:36	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 22:36	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/10/21 10:35	07/11/21 22:36	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		07/10/21 10:35	07/11/21 22:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	07/10/21 10:35	07/11/21 22:36	1
1,4-Difluorobenzene (Surr)	87		70 - 130	07/10/21 10:35	07/11/21 22:36	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH03

Lab Sample ID: 890-914-8

Date Collected: 07/08/21 10:07

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 04:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 04:53	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 04:53	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 04:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	07/12/21 13:20	07/14/21 04:53	1
o-Terphenyl	128		70 - 130	07/12/21 13:20	07/14/21 04:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5400		24.8		mg/Kg			07/12/21 23:01	5

Client Sample ID: BH03

Lab Sample ID: 890-914-9

Date Collected: 07/08/21 10:11

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 4 - 4.5

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		07/10/21 10:35	07/11/21 22:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 22:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 22:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/10/21 10:35	07/11/21 22:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 22:57	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/10/21 10:35	07/11/21 22:57	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		07/10/21 10:35	07/11/21 22:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	07/10/21 10:35	07/11/21 22:57	1
1,4-Difluorobenzene (Surr)	89		70 - 130	07/10/21 10:35	07/11/21 22:57	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		07/12/21 13:20	07/14/21 05:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 05:14	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 05:14	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 05:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	07/12/21 13:20	07/14/21 05:14	1
o-Terphenyl	151	S1+	70 - 130	07/12/21 13:20	07/14/21 05:14	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2980		25.0		mg/Kg			07/12/21 23:06	5

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH04

Lab Sample ID: 890-914-10

Date Collected: 07/08/21 10:17

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 1 - 1.5

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		07/10/21 10:35	07/11/21 23:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/11/21 23:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/11/21 23:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/11/21 23:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/11/21 23:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/11/21 23:17	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/11/21 23:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	07/10/21 10:35	07/11/21 23:17	1
1,4-Difluorobenzene (Surr)	93		70 - 130	07/10/21 10:35	07/11/21 23:17	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		07/12/21 13:20	07/14/21 05:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 05:35	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 05:35	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 05:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130	07/12/21 13:20	07/14/21 05:35	1
o-Terphenyl	153	S1+	70 - 130	07/12/21 13:20	07/14/21 05:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62.6		4.95		mg/Kg			07/12/21 23:12	1

Client Sample ID: BH04

Lab Sample ID: 890-914-11

Date Collected: 07/08/21 10:19

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

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		07/10/21 10:35	07/11/21 23:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 23:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 23:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/10/21 10:35	07/11/21 23:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 23:38	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/10/21 10:35	07/11/21 23:38	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		07/10/21 10:35	07/11/21 23:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	07/10/21 10:35	07/11/21 23:38	1
1,4-Difluorobenzene (Surr)	90		70 - 130	07/10/21 10:35	07/11/21 23:38	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH04

Lab Sample ID: 890-914-11

Date Collected: 07/08/21 10:19

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 06:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 06:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 06:16	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 06:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130	07/12/21 13:20	07/14/21 06:16	1
o-Terphenyl	145	S1+	70 - 130	07/12/21 13:20	07/14/21 06:16	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			07/12/21 23:17	1

Client Sample ID: BH04

Lab Sample ID: 890-914-12

Date Collected: 07/08/21 10:22

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 4 - 4.5

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		07/10/21 10:35	07/11/21 23:58	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/10/21 10:35	07/11/21 23:58	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/10/21 10:35	07/11/21 23:58	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		07/10/21 10:35	07/11/21 23:58	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/10/21 10:35	07/11/21 23:58	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		07/10/21 10:35	07/11/21 23:58	1
Total BTEX	<0.00397	U	0.00397		mg/Kg		07/10/21 10:35	07/11/21 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	07/10/21 10:35	07/11/21 23:58	1
1,4-Difluorobenzene (Surr)	88		70 - 130	07/10/21 10:35	07/11/21 23:58	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		07/12/21 13:20	07/14/21 06:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 06:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 06:36	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 06:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	07/12/21 13:20	07/14/21 06:36	1
o-Terphenyl	121		70 - 130	07/12/21 13:20	07/14/21 06:36	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	123		5.01		mg/Kg			07/12/21 23:23	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH05

Lab Sample ID: 890-914-13

Date Collected: 07/08/21 10:39

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 1 - 1.5

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		07/10/21 10:35	07/12/21 00:19	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/12/21 00:19	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/12/21 00:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/12/21 00:19	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/12/21 00:19	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/12/21 00:19	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/12/21 00:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	07/10/21 10:35	07/12/21 00:19	1
1,4-Difluorobenzene (Surr)	93		70 - 130	07/10/21 10:35	07/12/21 00:19	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		07/12/21 13:20	07/14/21 06:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 06:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 06:57	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 06:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	07/12/21 13:20	07/14/21 06:57	1
o-Terphenyl	145	S1+	70 - 130	07/12/21 13:20	07/14/21 06:57	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14000		99.0		mg/Kg			07/14/21 21:39	20

Client Sample ID: BH05

Lab Sample ID: 890-914-14

Date Collected: 07/08/21 10:42

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

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		07/10/21 10:35	07/12/21 00:39	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/12/21 00:39	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/12/21 00:39	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/12/21 00:39	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:35	07/12/21 00:39	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/12/21 00:39	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		07/10/21 10:35	07/12/21 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	07/10/21 10:35	07/12/21 00:39	1
1,4-Difluorobenzene (Surr)	93		70 - 130	07/10/21 10:35	07/12/21 00:39	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH05

Lab Sample ID: 890-914-14

Date Collected: 07/08/21 10:42

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 2 - 2.5

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		07/12/21 13:20	07/14/21 07:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 07:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 07:18	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 13:20	07/14/21 07:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130	07/12/21 13:20	07/14/21 07:18	1
o-Terphenyl	136	S1+	70 - 130	07/12/21 13:20	07/14/21 07:18	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	452		5.02		mg/Kg			07/14/21 21:50	1

Client Sample ID: BH05

Lab Sample ID: 890-914-15

Date Collected: 07/08/21 10:45

Matrix: Solid

Date Received: 07/08/21 16:25

Sample Depth: 4 - 4.5

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		07/10/21 10:35	07/12/21 01:00	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/10/21 10:35	07/12/21 01:00	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		07/10/21 10:35	07/12/21 01:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		07/10/21 10:35	07/12/21 01:00	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/10/21 10:35	07/12/21 01:00	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/10/21 10:35	07/12/21 01:00	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		07/10/21 10:35	07/12/21 01:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	07/10/21 10:35	07/12/21 01:00	1
1,4-Difluorobenzene (Surr)	90		70 - 130	07/10/21 10:35	07/12/21 01:00	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		07/12/21 10:12	07/13/21 03:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/12/21 10:12	07/13/21 03:16	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 10:12	07/13/21 03:16	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 10:12	07/13/21 03:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	07/12/21 10:12	07/13/21 03:16	1
o-Terphenyl	114		70 - 130	07/12/21 10:12	07/13/21 03:16	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.8		4.98		mg/Kg			07/14/21 21:44	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

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)
890-914-1	BH01	107	92
890-914-2	BH01	104	92
890-914-3	BH01	104	92
890-914-4	BH02	101	94
890-914-5	BH02	111	92
890-914-6	BH02	103	93
890-914-7	BH03	99	91
890-914-8	BH03	104	87
890-914-9	BH03	107	89
890-914-10	BH04	101	93
890-914-11	BH04	112	90
890-914-12	BH04	107	88
890-914-13	BH05	110	93
890-914-14	BH05	106	93
890-914-15	BH05	108	90
LCS 880-5016/1-A	Lab Control Sample	131 S1+	118
LCSD 880-5016/2-A	Lab Control Sample Dup	134 S1+	123
MB 880-5016/5-A	Method Blank	89	91
MB 880-5043/5-A	Method Blank	117	84

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-914-1	BH01	118	144 S1+
890-914-1 MS	BH01	125	127
890-914-1 MSD	BH01	114	122
890-914-2	BH01	107	123
890-914-3	BH01	117	135 S1+
890-914-4	BH02	105	124
890-914-5	BH02	104	140 S1+
890-914-6	BH02	108	128
890-914-7	BH03	103	125
890-914-8	BH03	108	128
890-914-9	BH03	112	151 S1+
890-914-10	BH04	110	153 S1+
890-914-11	BH04	114	145 S1+
890-914-12	BH04	104	121
890-914-13	BH05	107	145 S1+
890-914-14	BH05	114	136 S1+
890-914-15	BH05	100	114
LCS 880-5077/2-A	Lab Control Sample	93	99
LCS 880-5097/2-A	Lab Control Sample	123	127
LCSD 880-5077/3-A	Lab Control Sample Dup	83	88

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

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)
LCSD 880-5097/3-A	Lab Control Sample Dup	109	122
MB 880-5077/1-A	Method Blank	93	105
MB 880-5097/1-A	Method Blank	110	136 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-5016/5-A

Matrix: Solid

Analysis Batch: 5061

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5016

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 17:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 17:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 17:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/10/21 10:35	07/11/21 17:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:35	07/11/21 17:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/10/21 10:35	07/11/21 17:08	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		07/10/21 10:35	07/11/21 17:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	07/10/21 10:35	07/11/21 17:08	1
1,4-Difluorobenzene (Surr)	91		70 - 130	07/10/21 10:35	07/11/21 17:08	1

Lab Sample ID: LCS 880-5016/1-A

Matrix: Solid

Analysis Batch: 5061

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07102		mg/Kg		71	70 - 130
Toluene	0.100	0.07730		mg/Kg		77	70 - 130
Ethylbenzene	0.100	0.08937		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1911		mg/Kg		96	70 - 130
o-Xylene	0.100	0.1038		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130
1,4-Difluorobenzene (Surr)	118		70 - 130

Lab Sample ID: LCSD 880-5016/2-A

Matrix: Solid

Analysis Batch: 5061

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5016

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.08194		mg/Kg		82	70 - 130	14	35
Toluene	0.100	0.08937		mg/Kg		89	70 - 130	14	35
Ethylbenzene	0.100	0.1025		mg/Kg		103	70 - 130	14	35
m-Xylene & p-Xylene	0.200	0.2168		mg/Kg		108	70 - 130	13	35
o-Xylene	0.100	0.1176		mg/Kg		118	70 - 130	12	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	134	S1+	70 - 130
1,4-Difluorobenzene (Surr)	123		70 - 130

Lab Sample ID: MB 880-5043/5-A

Matrix: Solid

Analysis Batch: 5061

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/10/21 09:30	07/11/21 06:17	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

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

Lab Sample ID: MB 880-5043/5-A

Matrix: Solid

Analysis Batch: 5061

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 09:30	07/11/21 06:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 09:30	07/11/21 06:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/10/21 09:30	07/11/21 06:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 09:30	07/11/21 06:17	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/10/21 09:30	07/11/21 06:17	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		07/10/21 09:30	07/11/21 06:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	07/10/21 09:30	07/11/21 06:17	1
1,4-Difluorobenzene (Surr)	84		70 - 130	07/10/21 09:30	07/11/21 06:17	1

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

Lab Sample ID: MB 880-5077/1-A

Matrix: Solid

Analysis Batch: 5065

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5077

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		07/12/21 10:12	07/12/21 20:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 10:12	07/12/21 20:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 10:12	07/12/21 20:16	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 10:12	07/12/21 20:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	07/12/21 10:12	07/12/21 20:16	1
o-Terphenyl	105		70 - 130	07/12/21 10:12	07/12/21 20:16	1

Lab Sample ID: LCS 880-5077/2-A

Matrix: Solid

Analysis Batch: 5065

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5077

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1006		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1179		mg/Kg		118	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	99		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

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

Lab Sample ID: LCSD 880-5077/3-A

Matrix: Solid

Analysis Batch: 5065

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5077

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	971.0		mg/Kg		97	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	1008		mg/Kg		101	70 - 130	16	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	83		70 - 130						
o-Terphenyl	88		70 - 130						

Lab Sample ID: MB 880-5097/1-A

Matrix: Solid

Analysis Batch: 5107

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5097

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		07/12/21 13:20	07/14/21 00:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 00:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 00:44	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 13:20	07/14/21 00:44	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130				07/12/21 13:20	07/14/21 00:44	1
o-Terphenyl	136	S1+	70 - 130				07/12/21 13:20	07/14/21 00:44	1

Lab Sample ID: LCS 880-5097/2-A

Matrix: Solid

Analysis Batch: 5107

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	908.3		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	1085		mg/Kg		108	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1-Chlorooctane	123		70 - 130						
o-Terphenyl	127		70 - 130						

Lab Sample ID: LCSD 880-5097/3-A

Matrix: Solid

Analysis Batch: 5107

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5097

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	812.6		mg/Kg		81	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	990.6		mg/Kg		99	70 - 130	9	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

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

Lab Sample ID: LCSD 880-5097/3-A

Matrix: Solid

Analysis Batch: 5107

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5097

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	122		70 - 130

Lab Sample ID: 890-914-1 MS

Matrix: Solid

Analysis Batch: 5107

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 5097

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	996	1031		mg/Kg		104	70 - 130	
Diesel Range Organics (Over C10-C28)	<50.0	U	996	1227		mg/Kg		123	70 - 130	
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	125		70 - 130							
o-Terphenyl	127		70 - 130							

Lab Sample ID: 890-914-1 MSD

Matrix: Solid

Analysis Batch: 5107

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 5097

	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	<50.0	U	996	957.8		mg/Kg		96	70 - 130	7	20	
Diesel Range Organics (Over C10-C28)	<50.0	U	996	1127		mg/Kg		113	70 - 130	8	20	
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	114		70 - 130									
o-Terphenyl	122		70 - 130									

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-5011/1-A

Matrix: Solid

Analysis Batch: 5102

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			07/14/21 19:19	1	

Lab Sample ID: LCS 880-5011/2-A

Matrix: Solid

Analysis Batch: 5102

Client Sample ID: Lab Control Sample

Prep Type: Soluble

	Spike	LCS	LCS						%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits			
Chloride	250	258.6		mg/Kg		103	90 - 110			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-5011/3-A

Matrix: Solid

Analysis Batch: 5102

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	258.2		mg/Kg		103	90 - 110	0	20

Lab Sample ID: MB 880-5009/1-A

Matrix: Solid

Analysis Batch: 5127

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			07/12/21 20:38	1

Lab Sample ID: LCS 880-5009/2-A

Matrix: Solid

Analysis Batch: 5127

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	264.7		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-5009/3-A

Matrix: Solid

Analysis Batch: 5127

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	263.3		mg/Kg		105	90 - 110	1	20

Lab Sample ID: 890-914-3 MS

Matrix: Solid

Analysis Batch: 5127

Client Sample ID: BH01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1850		1250	3181		mg/Kg		107	90 - 110		

Lab Sample ID: 890-914-3 MSD

Matrix: Solid

Analysis Batch: 5127

Client Sample ID: BH01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1850		1250	3179		mg/Kg		107	90 - 110	0	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

GC VOA

Prep Batch: 5016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-1	BH01	Total/NA	Solid	5035	
890-914-2	BH01	Total/NA	Solid	5035	
890-914-3	BH01	Total/NA	Solid	5035	
890-914-4	BH02	Total/NA	Solid	5035	
890-914-5	BH02	Total/NA	Solid	5035	
890-914-6	BH02	Total/NA	Solid	5035	
890-914-7	BH03	Total/NA	Solid	5035	
890-914-8	BH03	Total/NA	Solid	5035	
890-914-9	BH03	Total/NA	Solid	5035	
890-914-10	BH04	Total/NA	Solid	5035	
890-914-11	BH04	Total/NA	Solid	5035	
890-914-12	BH04	Total/NA	Solid	5035	
890-914-13	BH05	Total/NA	Solid	5035	
890-914-14	BH05	Total/NA	Solid	5035	
890-914-15	BH05	Total/NA	Solid	5035	
MB 880-5016/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-5016/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-5016/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 5043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-5043/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 5061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-1	BH01	Total/NA	Solid	8021B	5016
890-914-2	BH01	Total/NA	Solid	8021B	5016
890-914-3	BH01	Total/NA	Solid	8021B	5016
890-914-4	BH02	Total/NA	Solid	8021B	5016
890-914-5	BH02	Total/NA	Solid	8021B	5016
890-914-6	BH02	Total/NA	Solid	8021B	5016
890-914-7	BH03	Total/NA	Solid	8021B	5016
890-914-8	BH03	Total/NA	Solid	8021B	5016
890-914-9	BH03	Total/NA	Solid	8021B	5016
890-914-10	BH04	Total/NA	Solid	8021B	5016
890-914-11	BH04	Total/NA	Solid	8021B	5016
890-914-12	BH04	Total/NA	Solid	8021B	5016
890-914-13	BH05	Total/NA	Solid	8021B	5016
890-914-14	BH05	Total/NA	Solid	8021B	5016
890-914-15	BH05	Total/NA	Solid	8021B	5016
MB 880-5016/5-A	Method Blank	Total/NA	Solid	8021B	5016
MB 880-5043/5-A	Method Blank	Total/NA	Solid	8021B	5043
LCS 880-5016/1-A	Lab Control Sample	Total/NA	Solid	8021B	5016
LCSD 880-5016/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	5016

GC Semi VOA

Analysis Batch: 5065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-15	BH05	Total/NA	Solid	8015B NM	5077
MB 880-5077/1-A	Method Blank	Total/NA	Solid	8015B NM	5077

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

GC Semi VOA (Continued)

Analysis Batch: 5065 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-5077/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	5077
LCSD 880-5077/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	5077

Prep Batch: 5077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-15	BH05	Total/NA	Solid	8015NM Prep	
MB 880-5077/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-5077/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-5077/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 5097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-1	BH01	Total/NA	Solid	8015NM Prep	
890-914-2	BH01	Total/NA	Solid	8015NM Prep	
890-914-3	BH01	Total/NA	Solid	8015NM Prep	
890-914-4	BH02	Total/NA	Solid	8015NM Prep	
890-914-5	BH02	Total/NA	Solid	8015NM Prep	
890-914-6	BH02	Total/NA	Solid	8015NM Prep	
890-914-7	BH03	Total/NA	Solid	8015NM Prep	
890-914-8	BH03	Total/NA	Solid	8015NM Prep	
890-914-9	BH03	Total/NA	Solid	8015NM Prep	
890-914-10	BH04	Total/NA	Solid	8015NM Prep	
890-914-11	BH04	Total/NA	Solid	8015NM Prep	
890-914-12	BH04	Total/NA	Solid	8015NM Prep	
890-914-13	BH05	Total/NA	Solid	8015NM Prep	
890-914-14	BH05	Total/NA	Solid	8015NM Prep	
MB 880-5097/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-5097/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-5097/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-914-1 MS	BH01	Total/NA	Solid	8015NM Prep	
890-914-1 MSD	BH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 5107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-1	BH01	Total/NA	Solid	8015B NM	5097
890-914-2	BH01	Total/NA	Solid	8015B NM	5097
890-914-3	BH01	Total/NA	Solid	8015B NM	5097
890-914-4	BH02	Total/NA	Solid	8015B NM	5097
890-914-5	BH02	Total/NA	Solid	8015B NM	5097
890-914-6	BH02	Total/NA	Solid	8015B NM	5097
890-914-7	BH03	Total/NA	Solid	8015B NM	5097
890-914-8	BH03	Total/NA	Solid	8015B NM	5097
890-914-9	BH03	Total/NA	Solid	8015B NM	5097
890-914-10	BH04	Total/NA	Solid	8015B NM	5097
890-914-11	BH04	Total/NA	Solid	8015B NM	5097
890-914-12	BH04	Total/NA	Solid	8015B NM	5097
890-914-13	BH05	Total/NA	Solid	8015B NM	5097
890-914-14	BH05	Total/NA	Solid	8015B NM	5097
MB 880-5097/1-A	Method Blank	Total/NA	Solid	8015B NM	5097
LCS 880-5097/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	5097
LCSD 880-5097/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	5097

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

GC Semi VOA (Continued)

Analysis Batch: 5107 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-1 MS	BH01	Total/NA	Solid	8015B NM	5097
890-914-1 MSD	BH01	Total/NA	Solid	8015B NM	5097

HPLC/IC

Leach Batch: 5009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-1	BH01	Soluble	Solid	DI Leach	
890-914-2	BH01	Soluble	Solid	DI Leach	
890-914-3	BH01	Soluble	Solid	DI Leach	
890-914-4	BH02	Soluble	Solid	DI Leach	
890-914-5	BH02	Soluble	Solid	DI Leach	
890-914-6	BH02	Soluble	Solid	DI Leach	
890-914-7	BH03	Soluble	Solid	DI Leach	
890-914-8	BH03	Soluble	Solid	DI Leach	
890-914-9	BH03	Soluble	Solid	DI Leach	
890-914-10	BH04	Soluble	Solid	DI Leach	
890-914-11	BH04	Soluble	Solid	DI Leach	
890-914-12	BH04	Soluble	Solid	DI Leach	
MB 880-5009/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5009/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5009/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-914-3 MS	BH01	Soluble	Solid	DI Leach	
890-914-3 MSD	BH01	Soluble	Solid	DI Leach	

Leach Batch: 5011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-13	BH05	Soluble	Solid	DI Leach	
890-914-14	BH05	Soluble	Solid	DI Leach	
890-914-15	BH05	Soluble	Solid	DI Leach	
MB 880-5011/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5011/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5011/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 5102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-13	BH05	Soluble	Solid	300.0	5011
890-914-14	BH05	Soluble	Solid	300.0	5011
890-914-15	BH05	Soluble	Solid	300.0	5011
MB 880-5011/1-A	Method Blank	Soluble	Solid	300.0	5011
LCS 880-5011/2-A	Lab Control Sample	Soluble	Solid	300.0	5011
LCSD 880-5011/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5011

Analysis Batch: 5127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-1	BH01	Soluble	Solid	300.0	5009
890-914-2	BH01	Soluble	Solid	300.0	5009
890-914-3	BH01	Soluble	Solid	300.0	5009
890-914-4	BH02	Soluble	Solid	300.0	5009
890-914-5	BH02	Soluble	Solid	300.0	5009
890-914-6	BH02	Soluble	Solid	300.0	5009

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

HPLC/IC (Continued)

Analysis Batch: 5127 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-914-7	BH03	Soluble	Solid	300.0	5009
890-914-8	BH03	Soluble	Solid	300.0	5009
890-914-9	BH03	Soluble	Solid	300.0	5009
890-914-10	BH04	Soluble	Solid	300.0	5009
890-914-11	BH04	Soluble	Solid	300.0	5009
890-914-12	BH04	Soluble	Solid	300.0	5009
MB 880-5009/1-A	Method Blank	Soluble	Solid	300.0	5009
LCS 880-5009/2-A	Lab Control Sample	Soluble	Solid	300.0	5009
LCSD 880-5009/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5009
890-914-3 MS	BH01	Soluble	Solid	300.0	5009
890-914-3 MSD	BH01	Soluble	Solid	300.0	5009

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH01

Lab Sample ID: 890-914-1

Date Collected: 07/08/21 10:51

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 19:12	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 01:46	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		20			5127	07/12/21 22:00	CH	XEN MID

Client Sample ID: BH01

Lab Sample ID: 890-914-2

Date Collected: 07/08/21 10:53

Matrix: Solid

Date Received: 07/08/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 19:33	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 02:49	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		20			5127	07/12/21 22:05	CH	XEN MID

Client Sample ID: BH01

Lab Sample ID: 890-914-3

Date Collected: 07/08/21 10:56

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 19:53	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 03:09	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		5			5127	07/12/21 22:11	CH	XEN MID

Client Sample ID: BH02

Lab Sample ID: 890-914-4

Date Collected: 07/08/21 10:29

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 20:13	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 03:30	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		10			5127	07/12/21 22:28	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH02

Lab Sample ID: 890-914-5

Date Collected: 07/08/21 10:31

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 20:34	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 03:51	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		10			5127	07/14/21 11:15	CH	XEN MID

Client Sample ID: BH02

Lab Sample ID: 890-914-6

Date Collected: 07/08/21 10:33

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 21:55	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 04:12	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/14/21 11:20	CH	XEN MID

Client Sample ID: BH03

Lab Sample ID: 890-914-7

Date Collected: 07/08/21 10:04

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 22:16	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 04:32	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		10			5127	07/14/21 11:26	CH	XEN MID

Client Sample ID: BH03

Lab Sample ID: 890-914-8

Date Collected: 07/08/21 10:07

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 22:36	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 04:53	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		5			5127	07/12/21 23:01	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH03

Lab Sample ID: 890-914-9

Date Collected: 07/08/21 10:11

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 22:57	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 05:14	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		5			5127	07/12/21 23:06	CH	XEN MID

Client Sample ID: BH04

Lab Sample ID: 890-914-10

Date Collected: 07/08/21 10:17

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 23:17	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 05:35	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/12/21 23:12	CH	XEN MID

Client Sample ID: BH04

Lab Sample ID: 890-914-11

Date Collected: 07/08/21 10:19

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 23:38	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 06:16	AJ	XEN MID
Soluble	Leach	DI Leach			5.00 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/12/21 23:17	CH	XEN MID

Client Sample ID: BH04

Lab Sample ID: 890-914-12

Date Collected: 07/08/21 10:22

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/11/21 23:58	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 06:36	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/12/21 23:23	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Client Sample ID: BH05

Lab Sample ID: 890-914-13

Date Collected: 07/08/21 10:39

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/12/21 00:19	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 06:57	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	5011	07/09/21 12:40	CH	XEN MID
Soluble	Analysis	300.0		20			5102	07/14/21 21:39	CH	XEN MID

Client Sample ID: BH05

Lab Sample ID: 890-914-14

Date Collected: 07/08/21 10:42

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/12/21 00:39	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5097	07/12/21 13:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5107	07/14/21 07:18	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	5011	07/09/21 12:40	CH	XEN MID
Soluble	Analysis	300.0		1			5102	07/14/21 21:50	CH	XEN MID

Client Sample ID: BH05

Lab Sample ID: 890-914-15

Date Collected: 07/08/21 10:45

Matrix: Solid

Date Received: 07/08/21 16:25

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	5016	07/10/21 10:35	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5061	07/12/21 01:00	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	5077	07/12/21 10:12	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5065	07/13/21 03:16	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	5011	07/09/21 12:40	CH	XEN MID
Soluble	Analysis	300.0		1			5102	07/14/21 21:44	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 Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-914-1
SDG: 31403360.000.0348

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-914-1	BH01	Solid	07/08/21 10:51	07/08/21 16:25	1 - 1.5
890-914-2	BH01	Solid	07/08/21 10:53	07/08/21 16:25	2 - 2.5
890-914-3	BH01	Solid	07/08/21 10:56	07/08/21 16:25	4 - 4.5
890-914-4	BH02	Solid	07/08/21 10:29	07/08/21 16:25	1 - 1.5
890-914-5	BH02	Solid	07/08/21 10:31	07/08/21 16:25	2 - 2.5
890-914-6	BH02	Solid	07/08/21 10:33	07/08/21 16:25	4 - 4.5
890-914-7	BH03	Solid	07/08/21 10:04	07/08/21 16:25	1 - 1.5
890-914-8	BH03	Solid	07/08/21 10:07	07/08/21 16:25	2 - 2.5
890-914-9	BH03	Solid	07/08/21 10:11	07/08/21 16:25	4 - 4.5
890-914-10	BH04	Solid	07/08/21 10:17	07/08/21 16:25	1 - 1.5
890-914-11	BH04	Solid	07/08/21 10:19	07/08/21 16:25	2 - 2.5
890-914-12	BH04	Solid	07/08/21 10:22	07/08/21 16:25	4 - 4.5
890-914-13	BH05	Solid	07/08/21 10:39	07/08/21 16:25	1 - 1.5
890-914-14	BH05	Solid	07/08/21 10:42	07/08/21 16:25	2 - 2.5
890-914-15	BH05	Solid	07/08/21 10:45	07/08/21 16:25	4 - 4.5

Eurofins Xenco, Carlsbad



Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 502-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	JOSEPH HELENANDER	Bill to: (if different)	LYDDA LAUMBACH
Company Name:	WSP USA	Company Name:	WSP ENERGY
Address:	3308 WORTH A STREET	Address:	5315 AVENUE VISTA DR
City, State ZIP:	MIDLAND, TX 79705	City, State ZIP:	CARLSBAD, NM 80522
Phone:	(281) 702-2329	Email:	anna.byes@wsp.com

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

Project Name:	RDX FEDERAL 21 #044	Turn Around	Pres. Code	ANALYSIS REQUEST	Preservative Codes
Project Number:	31403300.000.03415	Deadline <input type="checkbox"/> Rush			None: NO
Project Location:	EDDY COUNTY	Due Date:			DI Water: H ₂ O
Sampler's Name:	ANNA BYES	TAT starts the day received by the lab, if received by 4:30pm			Cool: Cool
PO #:	APP245533044	Wet Ice: <input checked="" type="checkbox"/> No			HCL: HC
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> No	Thermometer ID: <input checked="" type="checkbox"/> No			H ₂ SO ₄ : H ₂
Samples Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor: <input checked="" type="checkbox"/> No			H ₃ PO ₄ : HP
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Temperature Reading: <input checked="" type="checkbox"/> No			NaHSO ₄ : NABIS
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Corrected Temperature: <input checked="" type="checkbox"/> No			Na ₂ S ₂ O ₃ : NaSO ₃
Total Containers:	Corrected Temperature: 5.2				Zn Acetate+NaOH: Zn
					NaOH+Ascorbic Acid: SANC



890-914 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Sample Comments
BH01	S	3/8/21	10:51	1-1.5'	Grab	1	BTEX (EPA 8021B)	Time sampled in EST
BH01			10:53	2-2.5'		1	TPH (EPA 8015 Mod)	
BH01			10:54	4-4.5'		1	Chloride (EPA 8000)	
BH02			10:29	1-1.5'		1		
BH02			10:31	2-2.5'		1		
BH02			10:33	4-4.5'		1		
BH03			10:04	1-1.5'		1		
BH03			10:07	2-2.5'		1		
BH03			10:11	4-4.5'		1		
BH04			10:12	1-1.5'		1		

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

Circle Method(s) and Metal(s) to be analyzed: TCLP, SPLP, 6010, 6020, 8RCRA, Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byes	Anna Byes	7/8/21 4:14			



Environment Testing
Xenco

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

Chain of Custody

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	JOSEPH HERLAUDE	Bill to: (if different)	LYNDA LAMBACH
Company Name:	WSP USA	Company Name:	WSP ENERGY
Address:	3300 JOSEPH A STREET	Address:	5315 BREA VISTA DR
City, State ZIP:	MIDLAND, TX 79705	City, State ZIP:	CARLSBAD, NM 88220
Phone:	(281) 702-2329	Email:	lynda.lambach@wsp.com

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

Project Name:	RDX FEDERAL 21 #044	Turn Around	Pres. Code	ANALYSIS REQUEST												Preservative Codes					
Project Number:	3403300.000.0348	Deadline <input type="checkbox"/> Rush															None: NO	DI Water: H ₂ O			
Project Location:	EDDY COUNTY	Due Date:															Cool: Cool	MeOH: Me			
Sampler's Name:	ANNA BYEAS	TAT starts the day received by the lab, if received by 4:30pm																HCL: HC	HNO ₃ : HN		
PO #:	APP2115533094																	H ₂ SO ₄ : H ₂	NaOH: Na		
SAMPLE RECEIPT		Temp Blank:	Yes No	Wet Ice:	Yes No													H ₃ PO ₄ : HP			
Samples Received Intact:		Yes No	Thermometer ID:																	NaHSO ₄ : NABIS	
Cooler Custody Seals:		Yes No	Corrected Temp:																	Na ₂ S ₂ O ₃ : NaSO ₃	
Sample Custody Seals:		Yes No	Temperature Reading:																	Zn Acetate+NaOH: Zn	
Total Containers:		Yes No	Corrected Temperature:																	NaOH+Ascorbic Acid: SANC	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	ANALYSIS REQUEST	Preservative Codes	Sample Comments
B104	S	7/8/21	1019	2-25'	Grab	1	BTEX (EPA 8021B)			Time sampled in CST
B104			1022	4-45'		1	TPH (EPA 8015 mod)			
B105			1039	1-15'		1	Chloride (EPA 300.0)			
B105			1042	2-25'		1				
B105			1045	4-45'		1				

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PFM 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 / EPA 8010. 8RCRA SD AS Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg. 1631 / 245.1 / 7470 / 7471

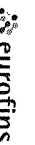
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	7/8/21 4:14			

Eurofins Xenco, Carlsbad

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

Chain of Custody Record

Environment Testing
America

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No:					
Client Contact:	Phone	Kramer Jessica			890-293 1					
Shipping/Receiving	E-Mail	jessica.kramer@eurofinsnet.com	State of Origin		Page: 1 of 2					
Company	Accreditations Required (See note)	NEIAP - Texas	New Mexico		Job #					
Eurofins Xenco					890-914-1					
Address:	Due Date Requested									
1211 W Florida Ave	7/14/2021									
City	TAT Requested (days)									
Midland										
State Zip:										
TX, 79701										
Phone:	PO #									
432-704-5440(Te)										
Email:	WO #									
Project Name:	Project #									
RDX Federal 21 #044	86000203									
Site:	SSOW#									
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=water/soil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of containers	Special Instructions/Note
BH01 (890-914-1)	7/8/21	10 51	Mountain	Solid	X	X	X			
BH01 (890-914-2)	7/8/21	10 53	Mountain	Solid	X	X	X			
BH01 (890-914-3)	7/8/21	10 56	Mountain	Solid	X	X	X			
BH02 (890-914-4)	7/8/21	10 29	Mountain	Solid	X	X	X			
BH02 (890-914-5)	7/8/21	10 31	Mountain	Solid	X	X	X			
BH02 (890-914-6)	7/8/21	10 33	Mountain	Solid	X	X	X			
BH03 (890-914-7)	7/8/21	10 04	Mountain	Solid	X	X	X			
BH03 (890-914-8)	7/8/21	10 07	Mountain	Solid	X	X	X			
BH03 (890-914-9)	7/8/21	10 11	Mountain	Solid	X	X	X			
<p>Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon our subcontractor laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.</p>										
<p>Possible Hazard Identification</p> <p>Unconfirmed</p> <p>Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2</p>										
<p>Empty Kit Relinquished by _____ Date _____ Time _____ Method of Shipment _____</p>										
<p>Relinquished by <i>Cec Cap 7.9.21</i> Date/Time: _____ Company _____ Received by <i>[Signature]</i> Date/Time: <i>7-12-21 10:00AM</i> Company _____</p>										
<p>Relinquished by _____ Date/Time: _____ Company _____ Received by _____ Date/Time: _____ Company _____</p>										
<p>Custody Seals Intact _____ Custody Seal No _____ Cooler Temperature(s) °C and Other Remarks _____</p>										
<p>Δ Yes Δ No</p>										

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-914-1

SDG Number: 31403360.000.0348

Login Number: 914

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: 890-914-1

SDG Number: 31403360.000.0348

Login Number: 914

List Number: 2

Creator: Lowe, Katie

List Source: Eurofins Xenco, Midland

List Creation: 07/10/21 03:02 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 Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-912-1

Laboratory Sample Delivery Group: 31403360.000.0348

Client Project/Site: RDX Federal 21 #044

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:
7/15/2021 2:43:13 PM

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

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Laboratory Job ID: 890-912-1
SDG: 31403360.000.0348

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	13
QC Sample Results	15
QC Association Summary	21
Lab Chronicle	25
Certification Summary	28
Method Summary	29
Sample Summary	30
Chain of Custody	31
Receipt Checklists	34

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Job ID: 890-912-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-912-1

Receipt

The samples were received on 7/8/2021 4:22 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: BH06 (890-912-1), BH06 (890-912-2), BH06 (890-912-3), BH07 (890-912-4), BH07 (890-912-5), BH07 (890-912-6), BH08 (890-912-7), BH08 (890-912-8), BH08 (890-912-9), BH09 (890-912-10), BH09 (890-912-11) and BH09 (890-912-12).

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH09 (890-912-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-5018 and analytical batch 880-5063 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Re-analysis was performed from previous run on analytical batch 5063. Run confirms results. BH06 (890-912-1), BH06 (890-912-2), BH06 (890-912-3), BH07 (890-912-4), BH07 (890-912-5), BH07 (890-912-6), BH08 (890-912-7), BH08 (890-912-8), BH08 (890-912-9), BH09 (890-912-10), (CCV 880-5089/20) and (880-3880-A-11-E)

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

GC Semi VOA

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-5069 and analytical batch 880-5067 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH06

Lab Sample ID: 890-912-1

Date Collected: 07/08/21 11:06

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 1 - 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/12/21 21:00	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/12/21 21:00	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/12/21 21:00	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/12/21 11:34	07/12/21 21:00	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/12/21 21:00	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/12/21 11:34	07/12/21 21:00	1
Total BTEX	<0.00404	U	0.00404		mg/Kg		07/12/21 11:34	07/12/21 21:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	07/12/21 11:34	07/12/21 21:00	1
1,4-Difluorobenzene (Surr)	81		70 - 130	07/12/21 11:34	07/12/21 21:00	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		07/12/21 11:44	07/14/21 08:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 11:44	07/14/21 08:20	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 11:44	07/14/21 08:20	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 11:44	07/14/21 08:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	07/12/21 11:44	07/14/21 08:20	1
o-Terphenyl	97		70 - 130	07/12/21 11:44	07/14/21 08:20	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	81.4		4.96		mg/Kg			07/14/21 20:45	1

Client Sample ID: BH06

Lab Sample ID: 890-912-2

Date Collected: 07/08/21 11:08

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 2 - 2.5

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		07/12/21 11:34	07/12/21 21:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 21:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 21:26	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/12/21 11:34	07/12/21 21:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 21:26	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/12/21 11:34	07/12/21 21:26	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		07/12/21 11:34	07/12/21 21:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	07/12/21 11:34	07/12/21 21:26	1
1,4-Difluorobenzene (Surr)	91		70 - 130	07/12/21 11:34	07/12/21 21:26	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH06

Lab Sample ID: 890-912-2

Date Collected: 07/08/21 11:08

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 2 - 2.5

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		07/12/21 11:44	07/14/21 08:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/12/21 11:44	07/14/21 08:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 11:44	07/14/21 08:41	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 11:44	07/14/21 08:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	07/12/21 11:44	07/14/21 08:41	1
o-Terphenyl	116		70 - 130	07/12/21 11:44	07/14/21 08:41	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.3	F1	5.00		mg/Kg			07/14/21 20:50	1

Client Sample ID: BH06

Lab Sample ID: 890-912-3

Date Collected: 07/08/21 11:11

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 4 - 4.5

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		07/12/21 11:34	07/12/21 21:53	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/12/21 11:34	07/12/21 21:53	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/12/21 11:34	07/12/21 21:53	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/12/21 11:34	07/12/21 21:53	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/12/21 11:34	07/12/21 21:53	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/12/21 11:34	07/12/21 21:53	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		07/12/21 11:34	07/12/21 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	07/12/21 11:34	07/12/21 21:53	1
1,4-Difluorobenzene (Surr)	89		70 - 130	07/12/21 11:34	07/12/21 21:53	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		07/12/21 11:44	07/14/21 09:02	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/12/21 11:44	07/14/21 09:02	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 11:44	07/14/21 09:02	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 11:44	07/14/21 09:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	07/12/21 11:44	07/14/21 09:02	1
o-Terphenyl	93		70 - 130	07/12/21 11:44	07/14/21 09:02	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95		mg/Kg			07/14/21 21:07	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH07

Lab Sample ID: 890-912-4

Date Collected: 07/08/21 11:34

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 1 - 1.5

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		07/12/21 11:34	07/12/21 22:19	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/12/21 11:34	07/12/21 22:19	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/12/21 11:34	07/12/21 22:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/12/21 11:34	07/12/21 22:19	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/12/21 11:34	07/12/21 22:19	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/12/21 11:34	07/12/21 22:19	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		07/12/21 11:34	07/12/21 22:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	07/12/21 11:34	07/12/21 22:19	1
1,4-Difluorobenzene (Surr)	87		70 - 130	07/12/21 11:34	07/12/21 22:19	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		07/12/21 11:44	07/14/21 09:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 11:44	07/14/21 09:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 11:44	07/14/21 09:23	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 11:44	07/14/21 09:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	07/12/21 11:44	07/14/21 09:23	1
o-Terphenyl	104		70 - 130	07/12/21 11:44	07/14/21 09:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.93		4.96		mg/Kg			07/15/21 12:46	1

Client Sample ID: BH07

Lab Sample ID: 890-912-5

Date Collected: 07/08/21 11:36

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 2 - 2.5

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		07/12/21 11:34	07/12/21 22:45	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/12/21 11:34	07/12/21 22:45	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/12/21 11:34	07/12/21 22:45	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		07/12/21 11:34	07/12/21 22:45	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/12/21 11:34	07/12/21 22:45	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		07/12/21 11:34	07/12/21 22:45	1
Total BTEX	<0.00397	U	0.00397		mg/Kg		07/12/21 11:34	07/12/21 22:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130	07/12/21 11:34	07/12/21 22:45	1
1,4-Difluorobenzene (Surr)	84		70 - 130	07/12/21 11:34	07/12/21 22:45	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH07

Lab Sample ID: 890-912-5

Date Collected: 07/08/21 11:36

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 2 - 2.5

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		07/12/21 08:54	07/12/21 17:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9		mg/Kg		07/12/21 08:54	07/12/21 17:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 17:01	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 17:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	07/12/21 08:54	07/12/21 17:01	1
o-Terphenyl	123		70 - 130	07/12/21 08:54	07/12/21 17:01	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.3		4.97		mg/Kg			07/14/21 21:28	1

Client Sample ID: BH07

Lab Sample ID: 890-912-6

Date Collected: 07/08/21 11:38

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 4 - 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/12/21 23:12	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/12/21 23:12	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/12/21 23:12	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/12/21 11:34	07/12/21 23:12	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/12/21 23:12	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/12/21 11:34	07/12/21 23:12	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		07/12/21 11:34	07/12/21 23:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	07/12/21 11:34	07/12/21 23:12	1
1,4-Difluorobenzene (Surr)	88		70 - 130	07/12/21 11:34	07/12/21 23:12	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		07/12/21 08:54	07/12/21 17:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9		mg/Kg		07/12/21 08:54	07/12/21 17:28	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 17:28	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130	07/12/21 08:54	07/12/21 17:28	1
o-Terphenyl	128		70 - 130	07/12/21 08:54	07/12/21 17:28	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97.8		5.00		mg/Kg			07/14/21 21:33	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH08

Lab Sample ID: 890-912-7

Date Collected: 07/08/21 11:44

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 1 - 1.5

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		07/12/21 11:34	07/12/21 23:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 23:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 23:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/12/21 11:34	07/12/21 23:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 23:38	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/12/21 11:34	07/12/21 23:38	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		07/12/21 11:34	07/12/21 23:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	07/12/21 11:34	07/12/21 23:38	1
1,4-Difluorobenzene (Surr)	100		70 - 130	07/12/21 11:34	07/12/21 23:38	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		07/12/21 08:54	07/12/21 17:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U **	49.9		mg/Kg		07/12/21 08:54	07/12/21 17:49	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 17:49	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 17:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	07/12/21 08:54	07/12/21 17:49	1
o-Terphenyl	119		70 - 130	07/12/21 08:54	07/12/21 17:49	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.1		4.96		mg/Kg			07/12/21 21:16	1

Client Sample ID: BH08

Lab Sample ID: 890-912-8

Date Collected: 07/08/21 11:46

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 2 - 2.5

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		07/12/21 11:34	07/13/21 00:04	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/12/21 11:34	07/13/21 00:04	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/12/21 11:34	07/13/21 00:04	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		07/12/21 11:34	07/13/21 00:04	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/12/21 11:34	07/13/21 00:04	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		07/12/21 11:34	07/13/21 00:04	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		07/12/21 11:34	07/13/21 00:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	07/12/21 11:34	07/13/21 00:04	1
1,4-Difluorobenzene (Surr)	85		70 - 130	07/12/21 11:34	07/13/21 00:04	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH08

Lab Sample ID: 890-912-8

Date Collected: 07/08/21 11:46

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 2 - 2.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 18:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U *	50.0		mg/Kg		07/12/21 08:54	07/12/21 18:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 18:10	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	07/12/21 08:54	07/12/21 18:10	1
o-Terphenyl	119		70 - 130	07/12/21 08:54	07/12/21 18:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.7		4.95		mg/Kg			07/12/21 21:22	1

Client Sample ID: BH08

Lab Sample ID: 890-912-9

Date Collected: 07/08/21 11:48

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 4 - 4.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/13/21 00:29	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/13/21 00:29	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/13/21 00:29	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/12/21 11:34	07/13/21 00:29	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/13/21 00:29	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/12/21 11:34	07/13/21 00:29	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		07/12/21 11:34	07/13/21 00:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130	07/12/21 11:34	07/13/21 00:29	1
1,4-Difluorobenzene (Surr)	83		70 - 130	07/12/21 11:34	07/13/21 00:29	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		07/12/21 08:54	07/12/21 18:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U *	50.0		mg/Kg		07/12/21 08:54	07/12/21 18:31	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 18:31	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 18:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	07/12/21 08:54	07/12/21 18:31	1
o-Terphenyl	117		70 - 130	07/12/21 08:54	07/12/21 18:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21.8		5.02		mg/Kg			07/14/21 11:09	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH09

Lab Sample ID: 890-912-10

Date Collected: 07/08/21 11:55

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 1 - 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/13/21 00:55	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/13/21 00:55	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/13/21 00:55	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/12/21 11:34	07/13/21 00:55	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/12/21 11:34	07/13/21 00:55	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/12/21 11:34	07/13/21 00:55	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		07/12/21 11:34	07/13/21 00:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	07/12/21 11:34	07/13/21 00:55	1
1,4-Difluorobenzene (Surr)	97		70 - 130	07/12/21 11:34	07/13/21 00:55	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		07/12/21 08:54	07/12/21 18:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U **	49.9		mg/Kg		07/12/21 08:54	07/12/21 18:52	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 18:52	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 18:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	07/12/21 08:54	07/12/21 18:52	1
o-Terphenyl	94		70 - 130	07/12/21 08:54	07/12/21 18:52	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	116		5.00		mg/Kg			07/12/21 21:43	1

Client Sample ID: BH09

Lab Sample ID: 890-912-11

Date Collected: 07/08/21 11:57

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 2 - 2.5

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		07/10/21 10:40	07/11/21 12:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:40	07/11/21 12:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:40	07/11/21 12:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/10/21 10:40	07/11/21 12:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/10/21 10:40	07/11/21 12:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/10/21 10:40	07/11/21 12:29	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		07/10/21 10:40	07/11/21 12:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	07/10/21 10:40	07/11/21 12:29	1
1,4-Difluorobenzene (Surr)	105		70 - 130	07/10/21 10:40	07/11/21 12:29	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH09

Lab Sample ID: 890-912-11

Date Collected: 07/08/21 11:57

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 2 - 2.5

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		07/12/21 08:54	07/12/21 19:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9		mg/Kg		07/12/21 08:54	07/12/21 19:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 19:13	1
Total TPH	<49.9	U	49.9		mg/Kg		07/12/21 08:54	07/12/21 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	07/12/21 08:54	07/12/21 19:13	1
o-Terphenyl	120		70 - 130	07/12/21 08:54	07/12/21 19:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	435		4.98		mg/Kg			07/12/21 21:49	1

Client Sample ID: BH09

Lab Sample ID: 890-912-12

Date Collected: 07/08/21 12:00

Matrix: Solid

Date Received: 07/08/21 16:22

Sample Depth: 4 - 4.5

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		07/10/21 10:40	07/11/21 12:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:40	07/11/21 12:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:40	07/11/21 12:49	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/10/21 10:40	07/11/21 12:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:40	07/11/21 12:49	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/10/21 10:40	07/11/21 12:49	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		07/10/21 10:40	07/11/21 12:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130	07/10/21 10:40	07/11/21 12:49	1
1,4-Difluorobenzene (Surr)	106		70 - 130	07/10/21 10:40	07/11/21 12:49	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		07/12/21 08:54	07/12/21 19:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U *	50.0		mg/Kg		07/12/21 08:54	07/12/21 19:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 19:34	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	07/12/21 08:54	07/12/21 19:34	1
o-Terphenyl	111		70 - 130	07/12/21 08:54	07/12/21 19:34	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	371		5.00		mg/Kg			07/12/21 21:54	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

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)
890-912-1	BH06	93	81
890-912-2	BH06	84	91
890-912-3	BH06	85	89
890-912-4	BH07	88	87
890-912-5	BH07	87	84
890-912-6	BH07	95	88
890-912-7	BH08	109	100
890-912-8	BH08	100	85
890-912-9	BH08	90	83
890-912-10	BH09	110	97
890-912-11	BH09	120	105
890-912-12	BH09	125	106
890-912-A-1-C MSD	890-912-A-1-C MSD	112	101
890-912-A-1-E MS	890-912-A-1-E MS	177 S1+	99
LCS 880-5018/1-A	Lab Control Sample	102	97
LCS 880-5090/1-A	Lab Control Sample	91	102
LCSD 880-5018/2-A	Lab Control Sample Dup	106	99
LCSD 880-5090/2-A	Lab Control Sample Dup	94	100
MB 880-5018/5-A	Method Blank	119	98
MB 880-5046/5-A	Method Blank	116	101
MB 880-5090/5-A	Method Blank	64 S1-	83
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)
890-912-1	BH06	87	97
890-912-2	BH06	104	116
890-912-3	BH06	86	93
890-912-4	BH07	98	104
890-912-5	BH07	112	123
890-912-6	BH07	115	128
890-912-7	BH08	108	119
890-912-8	BH08	105	119
890-912-9	BH08	106	117
890-912-10	BH09	89	94
890-912-11	BH09	112	120
890-912-12	BH09	108	111
LCS 880-5069/2-A	Lab Control Sample	113	107
LCS 880-5091/2-A	Lab Control Sample	98	103
LCSD 880-5069/3-A	Lab Control Sample Dup	97	93
LCSD 880-5091/3-A	Lab Control Sample Dup	97	99
MB 880-5069/1-A	Method Blank	93	102
MB 880-5091/1-A	Method Blank	99	108

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

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 Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-5018/5-A

Matrix: Solid

Analysis Batch: 5063

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:40	07/11/21 07:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:40	07/11/21 07:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:40	07/11/21 07:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/10/21 10:40	07/11/21 07:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/10/21 10:40	07/11/21 07:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/10/21 10:40	07/11/21 07:07	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		07/10/21 10:40	07/11/21 07:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	07/10/21 10:40	07/11/21 07:07	1
1,4-Difluorobenzene (Surr)	98		70 - 130	07/10/21 10:40	07/11/21 07:07	1

Lab Sample ID: LCS 880-5018/1-A

Matrix: Solid

Analysis Batch: 5063

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5018

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08221		mg/Kg		82	70 - 130
Toluene	0.100	0.09529		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.1013		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	0.200	0.2079		mg/Kg		104	70 - 130
o-Xylene	0.100	0.1063		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: LCSD 880-5018/2-A

Matrix: Solid

Analysis Batch: 5063

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5018

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08010		mg/Kg		80	70 - 130	3	35
Toluene	0.100	0.09339		mg/Kg		93	70 - 130	2	35
Ethylbenzene	0.100	0.09779		mg/Kg		98	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2006		mg/Kg		100	70 - 130	4	35
o-Xylene	0.100	0.1038		mg/Kg		104	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 890-912-A-1-C MSD

Matrix: Solid

Analysis Batch: 5063

Client Sample ID: 890-912-A-1-C MSD

Prep Type: Total/NA

Prep Batch: 5018

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0992	0.08778	F2	mg/Kg		88	70 - 130	66	35

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

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

Lab Sample ID: 890-912-A-1-C MSD

Matrix: Solid

Analysis Batch: 5063

Client Sample ID: 890-912-A-1-C MSD

Prep Type: Total/NA

Prep Batch: 5018

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	<0.00199	U	0.0992	0.09572	F2	mg/Kg		96	70 - 130	43	35
Ethylbenzene	<0.00199	U	0.0992	0.09400		mg/Kg		95	70 - 130	30	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1942		mg/Kg		98	70 - 130	28	35
o-Xylene	<0.00199	U	0.0992	0.09608		mg/Kg		97	70 - 130	20	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-912-A-1-E MS

Matrix: Solid

Analysis Batch: 5063

Client Sample ID: 890-912-A-1-E MS

Prep Type: Total/NA

Prep Batch: 5018

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U	0.0990	0.04444	F1	mg/Kg		45	70 - 130
Toluene	<0.00199	U	0.0990	0.06155	F1	mg/Kg		62	70 - 130
Ethylbenzene	<0.00199	U	0.0990	0.06957		mg/Kg		70	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1468		mg/Kg		74	70 - 130
o-Xylene	<0.00199	U	0.0990	0.07898		mg/Kg		80	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	177	S1+	70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: MB 880-5046/5-A

Matrix: Solid

Analysis Batch: 5063

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5046

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/09/21 16:38	07/10/21 19:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/09/21 16:38	07/10/21 19:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/09/21 16:38	07/10/21 19:33	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/09/21 16:38	07/10/21 19:33	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/09/21 16:38	07/10/21 19:33	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/09/21 16:38	07/10/21 19:33	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		07/09/21 16:38	07/10/21 19:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	07/09/21 16:38	07/10/21 19:33	1
1,4-Difluorobenzene (Surr)	101		70 - 130	07/09/21 16:38	07/10/21 19:33	1

Lab Sample ID: MB 880-5090/5-A

Matrix: Solid

Analysis Batch: 5089

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5090

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 15:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 15:00	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

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

Lab Sample ID: MB 880-5090/5-A

Matrix: Solid

Analysis Batch: 5089

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5090

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 15:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/12/21 11:34	07/12/21 15:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/12/21 11:34	07/12/21 15:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/12/21 11:34	07/12/21 15:00	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		07/12/21 11:34	07/12/21 15:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	64	S1-	70 - 130	07/12/21 11:34	07/12/21 15:00	1
1,4-Difluorobenzene (Surr)	83		70 - 130	07/12/21 11:34	07/12/21 15:00	1

Lab Sample ID: LCS 880-5090/1-A

Matrix: Solid

Analysis Batch: 5089

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5090

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09946		mg/Kg		99	70 - 130
Toluene	0.100	0.09449		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.1108		mg/Kg		111	70 - 130
m-Xylene & p-Xylene	0.200	0.1952		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09618		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: LCSD 880-5090/2-A

Matrix: Solid

Analysis Batch: 5089

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5090

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09172		mg/Kg		92	70 - 130	8	35
Toluene	0.100	0.08959		mg/Kg		90	70 - 130	5	35
Ethylbenzene	0.100	0.1021		mg/Kg		102	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1806		mg/Kg		90	70 - 130	8	35
o-Xylene	0.100	0.09059		mg/Kg		91	70 - 130	6	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

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

Lab Sample ID: MB 880-5069/1-A

Matrix: Solid

Analysis Batch: 5067

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5069

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		07/12/21 08:54	07/12/21 10:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 10:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 10:41	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 08:54	07/12/21 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	07/12/21 08:54	07/12/21 10:41	1
o-Terphenyl	102		70 - 130	07/12/21 08:54	07/12/21 10:41	1

Lab Sample ID: LCS 880-5069/2-A

Matrix: Solid

Analysis Batch: 5067

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5069

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1138		mg/Kg		114	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1374	++	mg/Kg		137	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-5069/3-A

Matrix: Solid

Analysis Batch: 5067

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5069

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1005		mg/Kg		101	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	1000	1193		mg/Kg		119	70 - 130	14	20

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

Lab Sample ID: MB 880-5091/1-A

Matrix: Solid

Analysis Batch: 5109

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5091

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		07/12/21 11:44	07/14/21 00:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/12/21 11:44	07/14/21 00:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/12/21 11:44	07/14/21 00:44	1
Total TPH	<50.0	U	50.0		mg/Kg		07/12/21 11:44	07/14/21 00:44	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	07/12/21 11:44	07/14/21 00:44	1
o-Terphenyl	108		70 - 130	07/12/21 11:44	07/14/21 00:44	1

Lab Sample ID: LCS 880-5091/2-A

Matrix: Solid

Analysis Batch: 5109

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	704.1		mg/Kg		70	70 - 130
Diesel Range Organics (Over C10-C28)	1000	826.9		mg/Kg		83	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: LCSD 880-5091/3-A

Matrix: Solid

Analysis Batch: 5109

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5091

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	735.5		mg/Kg		74	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	797.4		mg/Kg		80	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	99		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-5011/1-A

Matrix: Solid

Analysis Batch: 5102

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			07/14/21 19:19	1

Lab Sample ID: LCS 880-5011/2-A

Matrix: Solid

Analysis Batch: 5102

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	258.6		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-5011/3-A

Matrix: Solid

Analysis Batch: 5102

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	258.2		mg/Kg		103	90 - 110	0	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-912-2 MS

Matrix: Solid

Analysis Batch: 5102

Client Sample ID: BH06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	14.3	F1	250	304.6	F1	mg/Kg		116	90 - 110

Lab Sample ID: 890-912-2 MSD

Matrix: Solid

Analysis Batch: 5102

Client Sample ID: BH06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	14.3	F1	250	304.7	F1	mg/Kg		116	90 - 110	0	20

Lab Sample ID: MB 880-5009/1-A

Matrix: Solid

Analysis Batch: 5127

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			07/12/21 20:38	1

Lab Sample ID: LCS 880-5009/2-A

Matrix: Solid

Analysis Batch: 5127

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	264.7		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-5009/3-A

Matrix: Solid

Analysis Batch: 5127

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	263.3		mg/Kg		105	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

GC VOA

Prep Batch: 5018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-11	BH09	Total/NA	Solid	5035	
890-912-12	BH09	Total/NA	Solid	5035	
MB 880-5018/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-5018/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-5018/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-912-A-1-C MSD	890-912-A-1-C MSD	Total/NA	Solid	5035	
890-912-A-1-E MS	890-912-A-1-E MS	Total/NA	Solid	5035	

Prep Batch: 5046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-5046/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 5063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-11	BH09	Total/NA	Solid	8021B	5018
890-912-12	BH09	Total/NA	Solid	8021B	5018
MB 880-5018/5-A	Method Blank	Total/NA	Solid	8021B	5018
MB 880-5046/5-A	Method Blank	Total/NA	Solid	8021B	5046
LCS 880-5018/1-A	Lab Control Sample	Total/NA	Solid	8021B	5018
LCSD 880-5018/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	5018
890-912-A-1-C MSD	890-912-A-1-C MSD	Total/NA	Solid	8021B	5018
890-912-A-1-E MS	890-912-A-1-E MS	Total/NA	Solid	8021B	5018

Analysis Batch: 5089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-1	BH06	Total/NA	Solid	8021B	5090
890-912-2	BH06	Total/NA	Solid	8021B	5090
890-912-3	BH06	Total/NA	Solid	8021B	5090
890-912-4	BH07	Total/NA	Solid	8021B	5090
890-912-5	BH07	Total/NA	Solid	8021B	5090
890-912-6	BH07	Total/NA	Solid	8021B	5090
890-912-7	BH08	Total/NA	Solid	8021B	5090
890-912-8	BH08	Total/NA	Solid	8021B	5090
890-912-9	BH08	Total/NA	Solid	8021B	5090
890-912-10	BH09	Total/NA	Solid	8021B	5090
MB 880-5090/5-A	Method Blank	Total/NA	Solid	8021B	5090
LCS 880-5090/1-A	Lab Control Sample	Total/NA	Solid	8021B	5090
LCSD 880-5090/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	5090

Prep Batch: 5090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-1	BH06	Total/NA	Solid	5035	
890-912-2	BH06	Total/NA	Solid	5035	
890-912-3	BH06	Total/NA	Solid	5035	
890-912-4	BH07	Total/NA	Solid	5035	
890-912-5	BH07	Total/NA	Solid	5035	
890-912-6	BH07	Total/NA	Solid	5035	
890-912-7	BH08	Total/NA	Solid	5035	
890-912-8	BH08	Total/NA	Solid	5035	
890-912-9	BH08	Total/NA	Solid	5035	
890-912-10	BH09	Total/NA	Solid	5035	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

GC VOA (Continued)

Prep Batch: 5090 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-5090/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-5090/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-5090/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 5067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-5	BH07	Total/NA	Solid	8015B NM	5069
890-912-6	BH07	Total/NA	Solid	8015B NM	5069
890-912-7	BH08	Total/NA	Solid	8015B NM	5069
890-912-8	BH08	Total/NA	Solid	8015B NM	5069
890-912-9	BH08	Total/NA	Solid	8015B NM	5069
890-912-10	BH09	Total/NA	Solid	8015B NM	5069
890-912-11	BH09	Total/NA	Solid	8015B NM	5069
890-912-12	BH09	Total/NA	Solid	8015B NM	5069
MB 880-5069/1-A	Method Blank	Total/NA	Solid	8015B NM	5069
LCS 880-5069/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	5069
LCSD 880-5069/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	5069

Prep Batch: 5069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-5	BH07	Total/NA	Solid	8015NM Prep	
890-912-6	BH07	Total/NA	Solid	8015NM Prep	
890-912-7	BH08	Total/NA	Solid	8015NM Prep	
890-912-8	BH08	Total/NA	Solid	8015NM Prep	
890-912-9	BH08	Total/NA	Solid	8015NM Prep	
890-912-10	BH09	Total/NA	Solid	8015NM Prep	
890-912-11	BH09	Total/NA	Solid	8015NM Prep	
890-912-12	BH09	Total/NA	Solid	8015NM Prep	
MB 880-5069/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-5069/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-5069/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 5091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-1	BH06	Total/NA	Solid	8015NM Prep	
890-912-2	BH06	Total/NA	Solid	8015NM Prep	
890-912-3	BH06	Total/NA	Solid	8015NM Prep	
890-912-4	BH07	Total/NA	Solid	8015NM Prep	
MB 880-5091/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-5091/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-5091/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 5109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-1	BH06	Total/NA	Solid	8015B NM	5091
890-912-2	BH06	Total/NA	Solid	8015B NM	5091
890-912-3	BH06	Total/NA	Solid	8015B NM	5091
890-912-4	BH07	Total/NA	Solid	8015B NM	5091
MB 880-5091/1-A	Method Blank	Total/NA	Solid	8015B NM	5091

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

GC Semi VOA (Continued)

Analysis Batch: 5109 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-5091/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	5091
LCSD 880-5091/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	5091

HPLC/IC

Leach Batch: 5009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-7	BH08	Soluble	Solid	DI Leach	
890-912-8	BH08	Soluble	Solid	DI Leach	
890-912-9	BH08	Soluble	Solid	DI Leach	
890-912-10	BH09	Soluble	Solid	DI Leach	
890-912-11	BH09	Soluble	Solid	DI Leach	
890-912-12	BH09	Soluble	Solid	DI Leach	
MB 880-5009/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5009/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5009/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 5011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-1	BH06	Soluble	Solid	DI Leach	
890-912-2	BH06	Soluble	Solid	DI Leach	
890-912-3	BH06	Soluble	Solid	DI Leach	
890-912-4	BH07	Soluble	Solid	DI Leach	
890-912-5	BH07	Soluble	Solid	DI Leach	
890-912-6	BH07	Soluble	Solid	DI Leach	
MB 880-5011/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5011/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5011/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-912-2 MS	BH06	Soluble	Solid	DI Leach	
890-912-2 MSD	BH06	Soluble	Solid	DI Leach	

Analysis Batch: 5102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-1	BH06	Soluble	Solid	300.0	5011
890-912-2	BH06	Soluble	Solid	300.0	5011
890-912-3	BH06	Soluble	Solid	300.0	5011
890-912-4	BH07	Soluble	Solid	300.0	5011
890-912-5	BH07	Soluble	Solid	300.0	5011
890-912-6	BH07	Soluble	Solid	300.0	5011
MB 880-5011/1-A	Method Blank	Soluble	Solid	300.0	5011
LCS 880-5011/2-A	Lab Control Sample	Soluble	Solid	300.0	5011
LCSD 880-5011/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5011
890-912-2 MS	BH06	Soluble	Solid	300.0	5011
890-912-2 MSD	BH06	Soluble	Solid	300.0	5011

Analysis Batch: 5127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-7	BH08	Soluble	Solid	300.0	5009
890-912-8	BH08	Soluble	Solid	300.0	5009
890-912-9	BH08	Soluble	Solid	300.0	5009
890-912-10	BH09	Soluble	Solid	300.0	5009

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

HPLC/IC (Continued)

Analysis Batch: 5127 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-912-11	BH09	Soluble	Solid	300.0	5009
890-912-12	BH09	Soluble	Solid	300.0	5009
MB 880-5009/1-A	Method Blank	Soluble	Solid	300.0	5009
LCS 880-5009/2-A	Lab Control Sample	Soluble	Solid	300.0	5009
LCSD 880-5009/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5009

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH06

Lab Sample ID: 890-912-1

Date Collected: 07/08/21 11:06

Matrix: Solid

Date Received: 07/08/21 16:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/12/21 21:00	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5091	07/12/21 11:44	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5109	07/14/21 08:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	5011	07/09/21 12:40	CH	XEN MID
Soluble	Analysis	300.0		1			5102	07/14/21 20:45	CH	XEN MID

Client Sample ID: BH06

Lab Sample ID: 890-912-2

Date Collected: 07/08/21 11:08

Matrix: Solid

Date Received: 07/08/21 16:22

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	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/12/21 21:26	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	5091	07/12/21 11:44	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5109	07/14/21 08:41	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	5011	07/09/21 12:40	CH	XEN MID
Soluble	Analysis	300.0		1			5102	07/14/21 20:50	CH	XEN MID

Client Sample ID: BH06

Lab Sample ID: 890-912-3

Date Collected: 07/08/21 11:11

Matrix: Solid

Date Received: 07/08/21 16:22

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	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/12/21 21:53	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5091	07/12/21 11:44	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5109	07/14/21 09:02	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	5011	07/09/21 12:40	CH	XEN MID
Soluble	Analysis	300.0		1			5102	07/14/21 21:07	CH	XEN MID

Client Sample ID: BH07

Lab Sample ID: 890-912-4

Date Collected: 07/08/21 11:34

Matrix: Solid

Date Received: 07/08/21 16:22

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	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/12/21 22:19	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	5091	07/12/21 11:44	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5109	07/14/21 09:23	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	5011	07/09/21 12:40	CH	XEN MID
Soluble	Analysis	300.0		1			5102	07/15/21 12:46	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH07

Lab Sample ID: 890-912-5

Date Collected: 07/08/21 11:36

Matrix: Solid

Date Received: 07/08/21 16:22

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	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/12/21 22:45	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	5069	07/12/21 08:54	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5067	07/12/21 17:01	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	5011	07/09/21 12:40	CH	XEN MID
Soluble	Analysis	300.0		1			5102	07/14/21 21:28	CH	XEN MID

Client Sample ID: BH07

Lab Sample ID: 890-912-6

Date Collected: 07/08/21 11:38

Matrix: Solid

Date Received: 07/08/21 16:22

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	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/12/21 23:12	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5069	07/12/21 08:54	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5067	07/12/21 17:28	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	5011	07/09/21 12:40	CH	XEN MID
Soluble	Analysis	300.0		1			5102	07/14/21 21:33	CH	XEN MID

Client Sample ID: BH08

Lab Sample ID: 890-912-7

Date Collected: 07/08/21 11:44

Matrix: Solid

Date Received: 07/08/21 16:22

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	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/12/21 23:38	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	5069	07/12/21 08:54	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5067	07/12/21 17:49	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/12/21 21:16	CH	XEN MID

Client Sample ID: BH08

Lab Sample ID: 890-912-8

Date Collected: 07/08/21 11:46

Matrix: Solid

Date Received: 07/08/21 16:22

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	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/13/21 00:04	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	5069	07/12/21 08:54	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5067	07/12/21 18:10	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/12/21 21:22	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Client Sample ID: BH08

Lab Sample ID: 890-912-9

Date Collected: 07/08/21 11:48

Matrix: Solid

Date Received: 07/08/21 16:22

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	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/13/21 00:29	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5069	07/12/21 08:54	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5067	07/12/21 18:31	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/14/21 11:09	CH	XEN MID

Client Sample ID: BH09

Lab Sample ID: 890-912-10

Date Collected: 07/08/21 11:55

Matrix: Solid

Date Received: 07/08/21 16:22

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	5090	07/12/21 11:34	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5089	07/13/21 00:55	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	5069	07/12/21 08:54	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5067	07/12/21 18:52	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/12/21 21:43	CH	XEN MID

Client Sample ID: BH09

Lab Sample ID: 890-912-11

Date Collected: 07/08/21 11:57

Matrix: Solid

Date Received: 07/08/21 16:22

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	5018	07/10/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5063	07/11/21 12:29	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5069	07/12/21 08:54	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5067	07/12/21 19:13	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/12/21 21:49	CH	XEN MID

Client Sample ID: BH09

Lab Sample ID: 890-912-12

Date Collected: 07/08/21 12:00

Matrix: Solid

Date Received: 07/08/21 16:22

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	5018	07/10/21 10:40	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5063	07/11/21 12:49	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	5069	07/12/21 08:54	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5067	07/12/21 19:34	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	5009	07/12/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1			5127	07/12/21 21:54	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 Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: RDX Federal 21 #044

Job ID: 890-912-1
SDG: 31403360.000.0348

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-912-1	BH06	Solid	07/08/21 11:06	07/08/21 16:22	1 - 1.5
890-912-2	BH06	Solid	07/08/21 11:08	07/08/21 16:22	2 - 2.5
890-912-3	BH06	Solid	07/08/21 11:11	07/08/21 16:22	4 - 4.5
890-912-4	BH07	Solid	07/08/21 11:34	07/08/21 16:22	1 - 1.5
890-912-5	BH07	Solid	07/08/21 11:36	07/08/21 16:22	2 - 2.5
890-912-6	BH07	Solid	07/08/21 11:38	07/08/21 16:22	4 - 4.5
890-912-7	BH08	Solid	07/08/21 11:44	07/08/21 16:22	1 - 1.5
890-912-8	BH08	Solid	07/08/21 11:46	07/08/21 16:22	2 - 2.5
890-912-9	BH08	Solid	07/08/21 11:48	07/08/21 16:22	4 - 4.5
890-912-10	BH09	Solid	07/08/21 11:55	07/08/21 16:22	1 - 1.5
890-912-11	BH09	Solid	07/08/21 11:57	07/08/21 16:22	2 - 2.5
890-912-12	BH09	Solid	07/08/21 12:00	07/08/21 16:22	4 - 4.5

Eurofins Xenco, Carlsbad



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) 794-1295
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	JOSEPH HERNANDEZ	Bill to: (if different)	LYNDA LAUMBACH
Company Name:	WSP USA	Company Name:	WSP ENERGY
Address:	3300 NEENT A STREET	Address:	5315 BUENA VISTA DR
City, State ZIP:	MIDLAND, TX 79705	City, State ZIP:	CARLSBAD, NM 88220
Phone:	(281) 762-2329	Email:	ANNA.BYERS@WSP.COM

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

Project Name:	RDX FEDERAL 21 st 044	Turn Around	Pres. Code
Project Number:	31403360.000.0348	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project Location:	EDY COUNTY	Due Date:	
Sampler's Name:	ANNA BYERS	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	AR02115532694	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
SAMPLE RECEIPT	Temp Blank:	Thermometer ID:	TEMP-001
Samples Received Inact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:	5.4
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Corrected Temperature:	5.7
Total Containers:			



890-912 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	ANALYSIS REQUEST	Preservative Codes	Sample Comments
BTH6	S	7/8/21	11:06	1-1.5'	Grab	1	BTEX (EPA 8021B)		None: NO	DI Water: H ₂ O
BTH6			11:08	2-2.5'		1	TPH (EPA 8015mod)		Cool: Cool	MeOH: Me
BTH6			11:11	4-4.5'		1	Chloride (EPA 300.0)		HCL: HC	HNO ₃ : HN
BTH6			11:34	1-1.5'		1			H ₂ SO ₄ : H ₂	NaOH: Na
BTH6			11:36	2-2.5'		1			H ₃ PO ₄ : HP	
BTH6			11:38	4-4.5'		1			NaHSO ₄ : NABIS	
BTH6			11:44	1-1.5'		1			Na ₂ S ₂ O ₃ : NaSO ₃	
BTH6			11:46	2-2.5'		1			Zn Acetate+NaOH: Zn	
BTH6			11:48	4-4.5'		1			NaOH+Ascorbic Acid: S-APC	
BTH6			11:55	1-1.5'		1				

Time labeled in CST

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: TEH+9PTE+010. 8RCRA SD AS BA BE CD CR CO CU PB MN MO NI SE AG TI U Hg: 1631 / 245.1 / 7470 / 7471

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

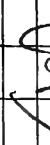
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Ann Byers</i>	<i>A. Byers</i>	7/8/21 4:14			



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

www.xenco.com Page 2 of 2

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	BTE	TDH	CH ₂	Sample Comments
BHD9	S	7/8/21	11:57	2.25	Grab	1	X	X	X	Tire CST
BHD9	S	7/8/21	12:00	4.45	Grab	1	X	X	X	
										

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	7/6/21 4:14 ²			
2					
3					
4					
5					
6					

Revised Date 08/25/2020 Rev 2024

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

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

Chain of Custody Record



Environment Testing
America

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s):	COC No:							
Client Contact:	Phone	Kramer Jessica			890-293-1							
Shipping/Receiving	E-Mail	Jessica.kramer@eurofins.com	State of Origin	Page:	Page 1 of 2							
Company	Accreditations Required (See note)	NEIAP - Texas		Job #	890-912-1							
Address:	Due Date Requested	7/14/2021	Analysis Requested									
City:	TAT Requested (days)											
State, Zip:												
Phone	PO #											
432-704-5440 (Tel)	WO #											
Email	Project #	88000203										
Project Name:	SSOW#											
RDX Federal 21 #044												
Site												
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=solid, O=wastefl, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/DI_LEACH Chloride	8015MOD_NM/8015NM_S_Prep Full TPH	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note
BH06 (890-912-1)	7/8/21	11 06		Solid		X	X	X				
BH06 (890-912-2)	7/8/21	11 08		Solid		X	X	X				
BH06 (890-912-3)	7/8/21	11 11		Solid		X	X	X				
BH07 (890-912-4)	7/8/21	11 34		Solid		X	X	X				
BH07 (890-912-5)	7/8/21	11 36		Solid		X	X	X				
BH07 (890-912-6)	7/8/21	11 38		Solid		X	X	X				
BH08 (890-912-7)	7/8/21	11 44		Solid		X	X	X				
BH08 (890-912-8)	7/8/21	11 46		Solid		X	X	X				
BH08 (890-912-9)	7/8/21	11 48		Solid		X	X	X				
<p>Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis, the sample must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.</p>												
Possible Hazard Identification												
<p>Unconfirmed</p> <p>Deliverable Requested I II III IV Other (Specify) Primary Deliverable Rank 2</p> <p>Empty Kit Relinquished by Date/Time: Date</p> <p>Relinquished by Date/Time: Company</p> <p>Relinquished by Date/Time: Company</p> <p>Relinquished by Date/Time: Company</p> <p>Custody Seals Intact: Custody Seal No</p> <p>Δ Yes Δ No</p>												
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</p> <p>Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months</p> <p>Special Instructions/QC Requirements.</p> <p>Method of Shipment: Date/Time: Company</p> <p>Received by Date/Time: Company</p> <p>Cooler Temperature(s) °C and Other Remarks</p>												

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-912-1

SDG Number: 31403360.000.0348

Login Number: 912

List Number: 1

Creator: Olivas, Nathaniel

List Source: Eurofins Xenco, Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-912-1

SDG Number: 31403360.000.0348

Login Number: 912

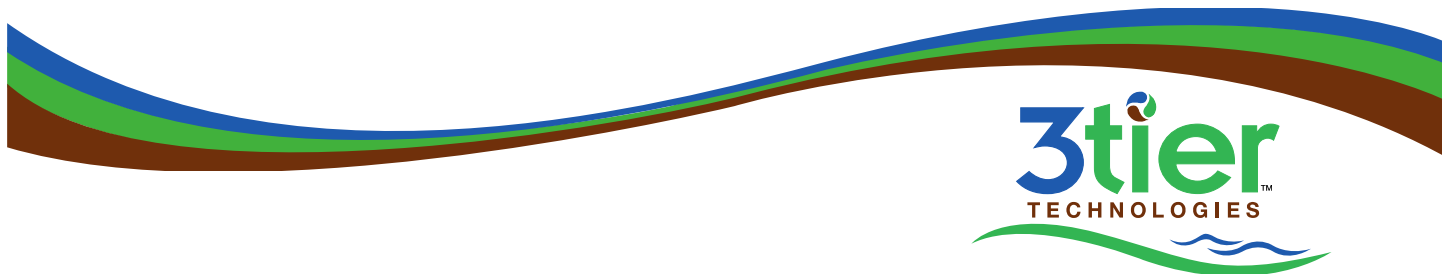
List Number: 2

Creator: Lowe, Katie

List Source: Eurofins Xenco, Midland

List Creation: 07/10/21 03:02 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	



FAQ – Bio-Regen SA-1000 For Salt Remediation

What is SA-1000?

3Tier Technologies **SA-1000** is a new management tool for remediation of high sodium and metal contaminated soils and wastewater streams. **SA-1000** is an advanced treatment product combining two, next generation, Polyelectrolyte Enhanced Organic Bio-Polymers (PEB) with bio-available calcium.

This uniquely blended product possess the following properties and functions; optimal molecular mass, active functional groups, hydrophilic and hydrophobic sites, positively and negatively charged sites, non-ionic sites, and specific interactions between molecules themselves and organic/mineral compounds. The combination of these diverse properties and functions provide a product that utilizes multiple functions and mechanisms to detoxify, neutralize and bind, salts and chlorides with the added ability to convert a myriad of toxic metals to benign residual metals.

What is 3 Tier's Polyelectrolyte Enhanced Biopolymer (PEB)?

The foundation of **SA-1000** is an advanced blend of two Polyelectrolyte Enhanced Biopolymer (PEB) that are derived from very stable, organic compounds found in brown and oxidized black coal. Our proprietary processing technology purifies and unleashes the vast potential of these massive molecular formulas.

PEB is a highly reactive long-chain molecule providing a purified carbon source available with various concentrations of fulvic acids, highly reaction functional groups, high CEC potential, and low ash and ballast. **SA-1000** contains a combination of negatively charged molecules for reactions with positively charged Na and a new generation of non-ionic molecules for negatively charged chlorides. This unique combination with the addition of calcium creates a complete remediation tool for salts, chlorides and metals. PEB is an all-natural, highly soluble, liquid concentrate that is safe and easy to use for both soil and aqueous application

Why is the PEB important to the salt remediation process?

PEB naturally binds, adsorbs, and coordinates sodium cations and chlorine anions which allow excessive amounts of salts/chlorides to become more mobile in terms of sodium cations and chloride anions, which eliminates the salt's/chlorides ability to bind to soil particles, especially clay. This reaction allows sodium/chlorides to be safely leached and naturally filtered through the soil profile. Any sodium/chloride residue creates a new mineral formation resulting in sodium, chloride, cation and anion conversion into physically and mechanically bound status, thus eliminating salt toxicity resulting in desalination and salt toxicity reduction/elimination. This process also improves the growing profile by reversing negative osmotic pressure, reducing electrical conductivity, increasing soluble organic matter allowing proper nutrient and moisture retention, percolation, and uptake, therefore allowing new plants to establish and regenerate soil back to a healthy and productive state. In aqueous solutions, the reactions are similar, resulting in the precipitation of most of the sodium, chlorides and metals with the remaining soluble forms being neutralized into non-toxic forms.



How does SA-1000 work?

SA-1000 possesses several beneficial characteristics that buffers the treatment environment, creates a foundation for maximum biological, geological and chemical reactions, is both hydrophobic and hydrophilic, and is designed to work effectively in both soil and aqueous environments. Through these various reactions with contaminants, **SA-1000** attracts various contaminants, reverses their negative impact in their environment and reduces/or eliminates the harmful impact through the following processes:

- **SA-1000** adsorbs and coordinates sodium cations and chlorine anions which allow excessive amounts of salt to become more mobile in terms of sodium cations and chloride anions that have a natural ability to safely filter through the soil or precipitate out of water. Any sodium residue creates a new mineral formation resulting in sodium, chlorine, cation and anion conversion into physically and mechanically bound status, thus eliminating salt toxicity resulting in desalination and salt toxicity reduction/elimination.
- **SA-1000** with bio-available calcium is immediately soluble and active compared to gypsum applications. See results within a couple weeks.
- In soil, **SA-1000** creates fresh soil organic matter that results in increased CEC, reduced Electrical Conductivity (EC), better water holding capacity through osmotic pressure reduction, and soil porosity/structure that results in healthy, active soil for re-use.
- **SA-1000** will naturally stimulate toxic organic and mineral pollutants decomposition into neutral soil mineral compounds such as converting Chromium VI to Chromium III which is accomplished by an abundance of hydroxyl and phenol groups. These functional groups are key to the metal complexation resulting in the binding of various metals which protects the environment.

How does SA-1000 improve the soil condition?

When frack/production water or drilling muds are accidentally released onto healthy soils, the results on vegetation are immediate, with devastating results. The impact of the sodium increases compaction through interactions with clay particles, reduces the ability for moisture to naturally penetrate the soils, dramatically increases Electrical Conductivity (EC), and limits natural nutrient conversion and availability to plants resulting in certain death.

Treatment of soils with **SA-1000** creates fresh soil organic matter that results in healthy, active soil for re-use. **SA-1000** will increase CEC while reducing electrical conductivity, improve water holding capacity by reducing the osmotic pressure, and soil porosity/structure by releasing the sodium for the clay and reversing the charge of the clay particles forcing them apart. **SA-1000** helps safely regenerate soil affected by salts/chlorides/metals and promotes improved soil structure for healthy, productive use of the site.

How quickly will SA-1000 work and when can you expect desired results?

In most of our project sites, the application of **SA-1000** resulted in a reduction in excess of 75% of Total Soluble Salts and over 80% reduction in chlorides within 30 days after application. While results may vary from one project site to the next, it is important to evaluate results after a minimum of six months. At such time **SA-1000** full impact would be realized in terms of improving the soil structure.

In most cases, the speed in which the product will work is impacted by a variety of variables. The most important factor is accurate soil analysis the clearly defines the level of contamination and soil structure/type. This information will insure proper application dosage of the treatment for the desired results. Other critical factors include soil moisture after application (Limited or no rainfall will slow analytical results), proper dosing rate and application, and the establishment of accurate expectations. A reasonable expectation is to see significant results in 30 days if the recommended dosage is used.

Once SA-1000 is applied is it safe to apply seed and any other required nutrients?

Yes, the impact of **SA-1000** is almost immediate in terms of detoxifying and buffering the soil structure. If desired, you may apply seed & required nutrients to the treated soil immediately after the application of **SA-1000**. With the proper moisture level & rain fall, germination may be seen in as little as 2 weeks

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 44701

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 44701
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	The Workplan/Remediation Plan is approved with the following conditions: Please make sure the floor confirmation samples are delineated/excavated to meet closure criteria standards for proven depth to water determination. Sidewall samples should be delineated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. The variance for confirmation samples of 500 ft2 is approved.	1/10/2022