To:
NMOCD (District 2)
Attn: Chad Hensley (Environmental)

From:
Jim Raley – Environmental Specialist
WPX Energy Permian LLC
5315 Buena Vista Drive
Carlsbad NM, 88220
575-689-7597

To Whom it may Concern,
Please find closure request for incident# nAPP2134444397.

Please direct this closure report resubmission to Chad Hensley. After discussions with Dan Moir (WSP) it is my understanding that Mr. Hensley has agreed to review the closure again and reconsider the original denial.

Thank you,

Jim Raley
Environmental Specialist – WPX Energy
575-689-7597 ( james.raley@wpxenergy.com )

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

| | |
|---|---|
| Incident ID | nAPP2134444397 |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

## Responsible Party

| | |
|---|---|
| Responsible Party: WPX Energy Permian, LLC | OGRID: 246289 |
| Contact Name: Jim Raley | Contact Telephone: 575-689-7597 |
| Contact email: jim.raley@dvn.com | Incident # *(assigned by OCD )* nAPP2134444397 |
| Contact mailing address: 5315 Buena Vista Dr., Carlsbad NM 88220 | |

## Location of Release Source

Latitude 32.03579 Longitude -103.89955
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name: RDX FEDERAL COM 17 #026H | Site Type: Oil Production Site |
| Date Release Discovered: December 7th, 2021 | API# *(if applicable) 30-015-42752* |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| O | 17 | 26S | 30E | Eddy |

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) 0 | Volume Recovered (bbls) 0 |
| ☒ Produced Water | Volume Released (bbls) 8 | Volume Recovered (bbls) 0 |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☒ Yes ☐ No |
| ☐ Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release: Line from separator to PW tanks developed leak, allowing for release of approx. 8 bbls produced water to pad surface.

*Spill sqft. x (1 cubic yard/27 cubic feet) x (porosity) x (6.41187384 bbls fluid/1 cubic yard) = approximately 8 bbls released fluids.*

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Page 2

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | nAPP2134444397 |
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| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br>☐ Yes ☒ No | If YES, for what reason(s) does the responsible party consider this a major release? |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc) | |

## Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: ____James Raley_____ Title: Environmental Specialist _____

Signature: _____ _____ Date: ___12/10/2021_____

email: ___jim.raley@dvn.com_____ Telephone: ___575-689-7597_____

**OCD Only**

Received by: Ramona Marcus Date: 12/13/2021

**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 66312

## CONDITIONS

| | |
|---|---|
| Operator:<br>WPX Energy Permian, LLC<br>Devon Energy - Regulatory<br>Oklahoma City, OK 73102 | OGRID:<br>246289 |
| | Action Number:<br>66312 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| rmarcus | None | 12/13/2021 |

| | |
|---|---|
| Incident ID | NAPP2134444397 |
| District RP | |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

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

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

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

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

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

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State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2134444397 |
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 3/4/2022

email: jim.raley@dvn.com Telephone: 575-689-7597

**OCD Only**

Received by: _____ Date: _____

| | |
|---|---|
| Incident ID | NAPP2134444397 |
| District RP | |
| Facility ID | |
| Application ID | |

# Closure

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

**Closure Report Attachment Checklist**: ***Each of the following items must be included in the closure report.***

☑ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☑ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☑ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☑ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 3/4/2022

email: jim.raley@dvn.com Telephone: 575-689-7597

**OCD Only**

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Jennifer Nobui Date: 05/04/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

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

March 4, 2022

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

**RE: Closure Request**
**RDX Federal Com 17 #026H**
**Incident Number nAPP2134444397**
**Eddy County, New Mexico**

To Whom It May Concern:

WSP USA Inc. (WSP), on behalf of WPX Energy Permian, LLC. (WPX), presents the following Closure Request detailing site assessment, excavation, and soil sampling activities at the RDX Federal Com 17 #026H (Site) located in Unit O, Section 17, Township 26 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, delineation soil sampling, and excavation activities was to address impacts to soil following a release of produced water at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, WPX is submitting this Closure Request, describing remediation that has occurred and requesting no further action (NFA) for Incident Number nAPP2134444397.

**RELEASE BACKGROUND**

On December 7, 2021, a line from the separator to the produced water tanks developed a leak, resulting in the release of approximately 8 barrels (bbls) of produced water onto the surface of the well pad. No fluids were able to be successfully recovered. WPX reported the release to the New Mexico Oil Conservation Division (NMOCD) and submitted a Release Notification Form C-141 on December 10, 2021. The release was assigned Incident Number nAPP2134444397.

**SITE CHARACTERIZATION**

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet bgs based on soil boring, MW-1, associated with RDX 17-3, that was drilled by Talon LPE on December 8, 2020. The soil boring is located approximately 0.28 miles east of the Site. Using a truck mounted drill rig equipped with hollow stem auger, the soil boring was advanced to a total depth of approximately 107 feet bgs. Groundwater was not observed within the soil boring after at least 72 hours. Following the observation period, the boring was plugged and abandoned. The boring log is included as Attachment 1.

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.

**WATER COURSE SURVEY**

On January 19, 2022, WSP personnel conducted a field investigation to confirm the presence of a potential significant watercourse identified in a desktop survey using the United States Fish and Wildlife Service (USFWS) online database, National Wetland Inventory (Wetland Mapper). Wetland Mapper is often used for initial evaluation of significant watercourses in response to reportable releases as required in the site characterization defined in 19.15.29.11.A(4) NMAC.

Field verification is sometimes necessary to measure the distance of the feature from the release extent and to confirm the feature modeled by the USFWS complies with the definition of a significant watercourse per Subsection P of 19.15.17.7 NMAC. Specifically, the definition in Subsection P of 19.15.17.7 NMAC requires a defined bed and bank and either named or identified by a dashed blue line on United States Geological Survey (USGS) 7.5-minute quadrangle map or the next lower order tributary with a defined bed and bank of such watercourse. Prior to the field investigation, WSP determined the surface feature did not present the preliminary requirements cognate to the anterior definition of a significant watercourse such that it was not identified by a dashed blue line on the current USGS 7.5-minute quadrangle map and did not reveal aerial properties of a next lower tributary that connect to a significant watercourse.

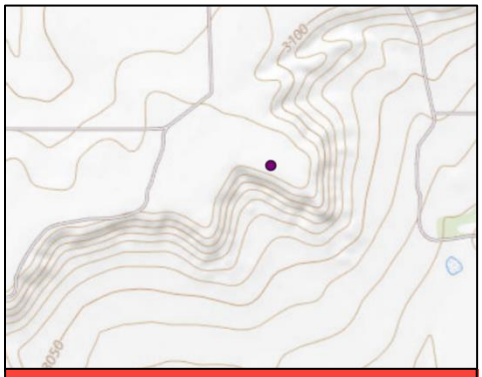


Diagram 1: View of the site location (Purple Dot) utilizing the current USGS 7.5 minute quadrangle USGS TOPO base layer map. Reference https://viewer.nationalmap.gov/basic/#/nhd

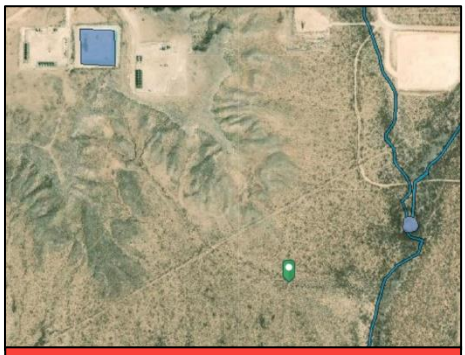
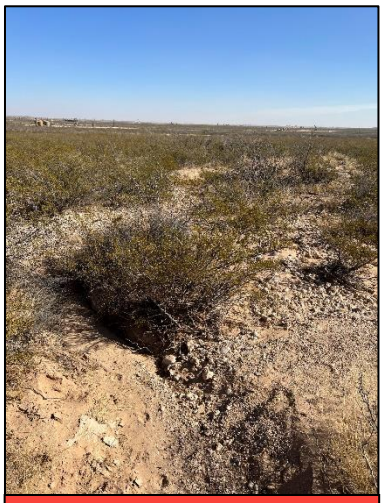


Diagram 2: "Riverine" identified in Wetland Mapper. (Green pin) location where conduit splays out.

Survey Photo 1: Erosional rut in Northeasterly area.

During the visual field survey of the watercourse, erosional paths or swales and ruts aligned with the topographic gradient were identified at the Northeasterly start of the riverine where highest elevations were located; however, these features appear to be from erosional events from heavy rain falls and not from a running or intermittent stream feature. The distinct erosional features decreased drastically in depth and size following the conduit Southeast where it eventually splayed out (Survey Photo 1 and survey Photo 2). The conduit did not appear to connect to a larger watercourse. The features furthest to the Southeast did not have a bed or bank, there was no evidence of fluvial deposition inside the erosional features, and they did not connect to other watercourses, instead splaying out onto the desert floor. More detailed results and photographic evidence are provided in Diagram 2 and Survey Photo 2. The closest feature with a defined bed and bank appears to be approximately 1,265 feet west of the Site.



Survey Photo 2: Area where conduit splays out to the Southeast.

Based on the observations presented, there are no significant watercourses located within 300 feet of the release extent per the definition of a significant watercourse in Subsection P of 19.15.17.7 NMAC. Instead, an erosional channel has formed by drainage of water during storm events. The conduit is intercepted by an access road and ultimately splays out along the desert floor without connecting to any other features. The survey tract associated with the conduit and photos is presented on Figure 2.

**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

**EXCAVATION SOIL SAMPLING ACTIVITIES**

Between December 16, 2021, and January 13, 2022, WSP personnel oversaw excavation activities at the Site as indicated by visual observations and descriptions provided in the C-141 form. Excavation activities were completed to address impacted soil within the release extent. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively.

Following removal of impacted soil, WSP collected 5-point composite soil samples every 200 square feet from the excavations. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS08 were collected from the floor of the excavations at depths ranging from 0.5 feet to 0.75 feet bgs. Due to the shallow depth of the excavation, the soil samples represented the floors and sidewalls of the excavations. The excavation 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.

Final laboratory analytical results for excavation soil samples FS01 through FS08, collected from the final excavation extent, indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. The soil sample analytical results are summarized in Table 1 and laboratory analytical reports are included in Attachment 3.

The excavation and excavation soil sample locations are depicted on Figure 2. Photographic documentation was conducted during the Site visit. A photographic log is included in Attachment 2. The excavation measured approximately 1,294 square feet in area and was completed to a depth ranging from 0.5 to 0.75 feet bgs. Approximately 24 cubic yards of soil was removed and properly disposed of at the R360 Facility located in Hobbs, New Mexico under WPX approved manifests.

**DELINEATION SOIL SAMPLING ACTIVITIES**

On January 13, 2022, WSP personnel returned to the Site to oversee delineation activities. Four potholes (PH01 through PH04) were advanced via track mounted backhoe around the release extent and surrounding the production equipment to confirm the lateral and vertical extent of impacted soil. Potholes PH01 through PH04 were advanced to a depth of 1-foot bgs. Discrete were collected from each pothole at depths of 0.5-foot bgs and 1-foot bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in

Attachment 3. The delineation soil samples were handled and analyzed as described above. The pothole delineation soil sample locations are depicted on Figure 3.

**LABORATORY ANALYTICAL RESULTS**

Final laboratory analytical results for excavation soil samples FS01 through FS08, collected from the final excavation extent, indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria.

Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH04, collected outside of the release extent and surrounding production equipment, indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. In addition, the delineation potholes collected at both depths provided lateral delineation of the release to the strictest Table 1 Closure Criteria.

The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

**CLOSURE REQUEST**

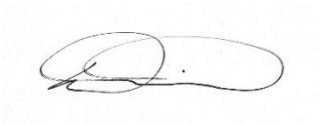
Site assessment and excavation activities were conducted at the Site to address the December 7, 2021, release of produced water. Based on visual observations and information from the C-141 form, remediation appeared warranted. Approximately 24 cubic yards of soil were excavated from the Site and laboratory analytical results for the excavation soil samples indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. In addition, delineation pothole samples collected at 0.5 and 1-foot bgs provide lateral delineation of the release to the strictest Table 1 Closure Criteria. Based on the soil sample analytical results, no further remediation was required.

Remediation response through the excavation of impacted soil, have mitigated impacts at this Site. Based on these efforts, soil sample laboratory analytical results compliant with the Closure Criteria and confirmed depth to groundwater greater than 100 feet bgs, WPX respectfully requests NFA and Closure of Incident Number nAPP2134444397.

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.



Payton Benner
Assistant Consultant, Geologist

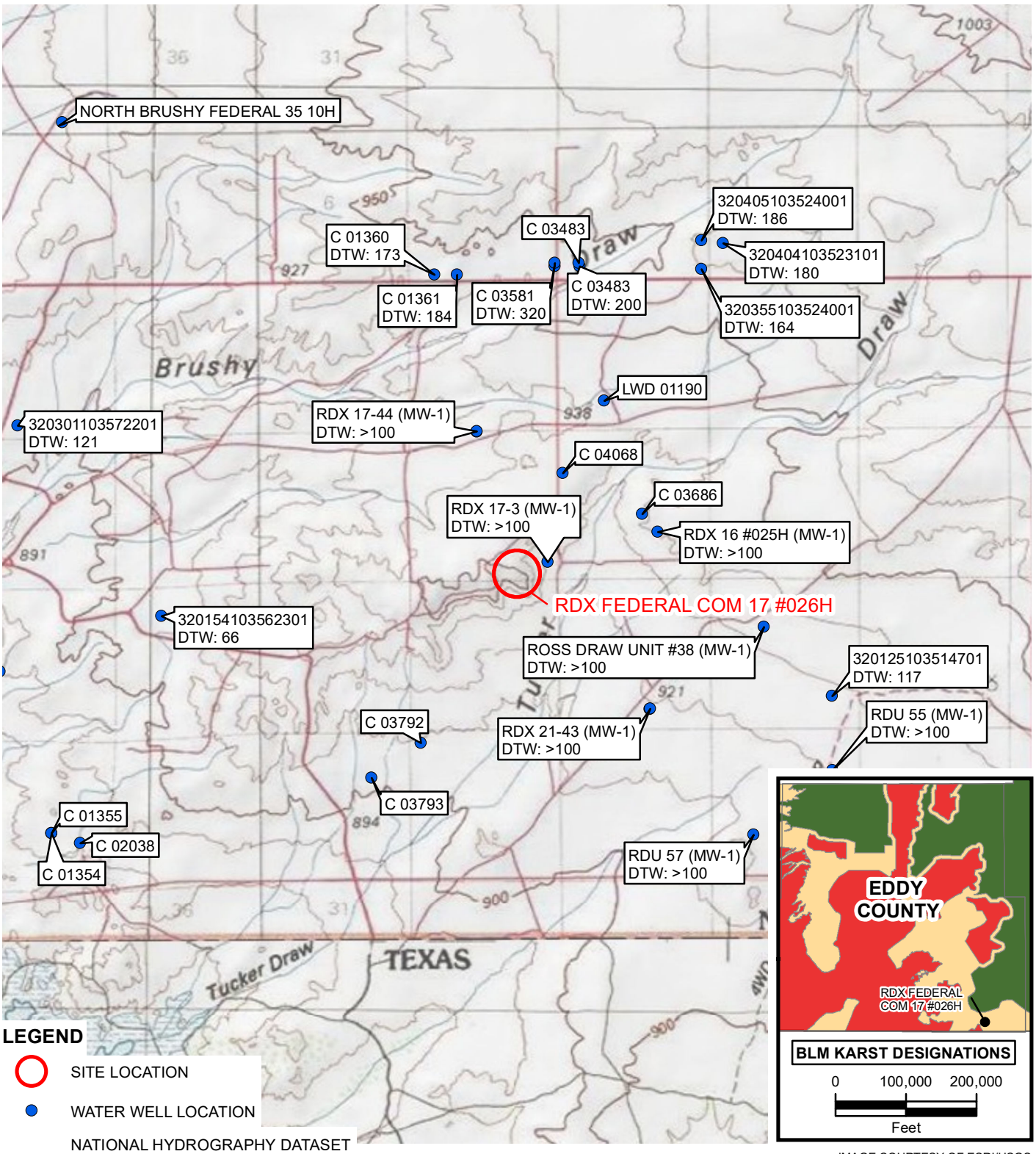
Daniel R. Moir, P.G.
Sr. Lead Consultant, Geologist

cc: Jim Raley, Devon Energy Corporation
Bureau of Land Management

Attachments:

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

FIGURES




**LEGEND**

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

NOTE: INCIDENT NUMBER nAPP2134444397
DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

FIGURE 1
SITE LOCATION MAP
RDX FEDERAL COM 17 #026H
UNIT O SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
**WPX ENERGY PERMIAN, LLC.**

P:\WPX-Devon\GIS\31403360.040_RDX FEDERAL COM 17 #026H\MXD\31403360.040_FIG01_SL_RECEPTOR_2022.mxd

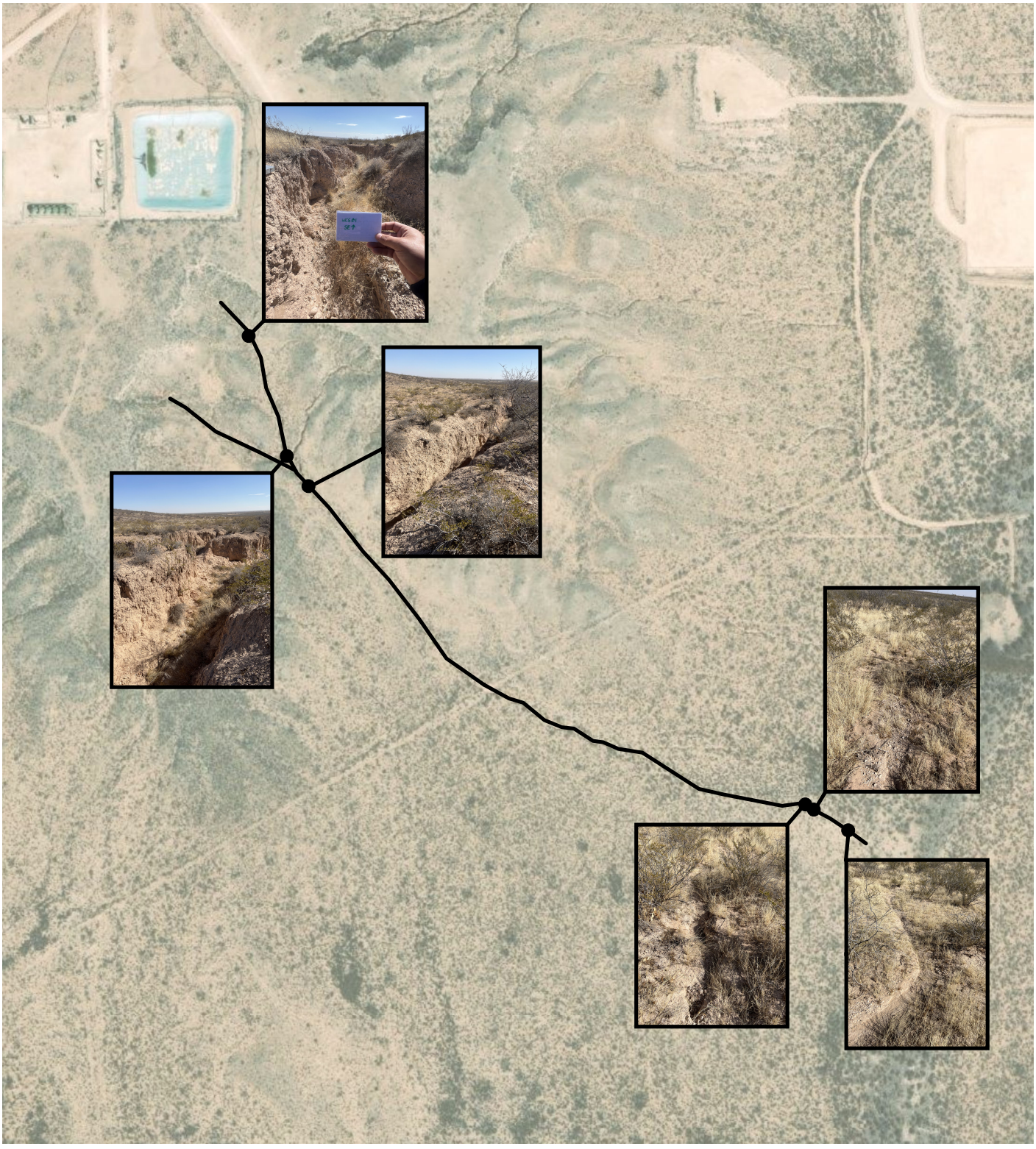


IMAGE COURTESY OF ESRI

**LEGEND**

WATERCOURSE SURVEY TRACT

0 400 800

Feet

N

FIGURE 2
WATERCOURSE SURVEY
RDX FEDERAL COM 17 #026H
UNIT O SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
**WPX ENERGY PERMIAN, LLC**

NOTE: INCIDENT NUMBER nAPP2134444397

P:\WPX-Devon\GIS\31403360.040_RDX FEDERAL COM 17 #026H\MXD\31403360.040_FIG02_WATERCOURSE_SURVEY_2022.mxd


**LEGEND**

- RELEASE LOCATION
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE EXTENT
- EXCAVATION EXTENT

NOTE: INCIDENT NUMBER nAPP2134444397
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
TEXT: INDICATES SOIL REPRESENTED BY SAMPLE THAT WAS REMOVED

IMAGE COURTESY OF ESRI

0 50 100
Feet

N

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
RDX FEDERAL COM 17 #026H
UNIT O SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
**WPX ENERGY PERMIAN, LLC**

P:\WPX-Devon\GIS\31403360.040_RDX FEDERAL COM 17 #026H\MXD\31403360.040_FIG03_EXCAVATION_2022.mxd


**LEGEND**

IMAGE COURTESY OF ESRI

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE EXTENT
- EXCAVATION EXTENT

0 50 100
Feet

N

NOTE: INCIDENT NUMBER nAPP2134444397
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

FIGURE 4
DELINEATION SOIL SAMPLE LOCATIONS
RDX FEDERAL COM 17 #026H
UNIT O SEC 17 T26S R30E
EDDY COUNTY, NEW MEXICO
**WPX ENERGY PERMIAN, LLC**

P:\WPX-Devon\GIS\31403360.040_RDX FEDERAL COM 17 #026H\MXD\31403360.040_FIG04_DELINEATION_2022.mxd

TABLES

**Table 1**

**Soil Analytical Results**
**RDX Federal Com 17 #026H**
**Incident Number nAPP2134444397**
**Eddy County, New Mexico**

| Sample ID | Sample Date | Sample Depth (ft bgs) | Benzene (mg/kg) | BTEX (mg/kg) | TPH-DRO (mg/kg) | TPH-GRO (mg/kg) | TPH-ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria (NMAC 19.15.29)** | | | **10** | **50** | NE | NE | NE | **1,000** | **2,500** | **20,000** |
| **Excavation Floor Samples** | | | | | | | | | | |
| FS01 | 12/16/2021 | 0.5 | <0.00201 | <0.00402 | 126 | <49.9 | <49.9 | 126 | 126 | 14,300 |
| FS02 | 12/16/2021 | 0.5 | <0.00202 | <0.00402 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | **24,800** |
| FS02A | 01/13/2022 | 0.75 | <0.00199 | <0.00398 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 1,830 |
| FS03 | 12/16/2021 | 0.5 | <0.00200 | <0.00399 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 14,500 |
| FS04 | 12/16/2021 | 0.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 6,560 |
| FS05 | 12/16/2021 | 0.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 12,300 |
| FS06 | 12/16/2021 | 0.5 | <0.00200 | <0.00400 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 6,200 |
| FS07 | 12/16/2021 | 0.5 | <0.00200 | <0.00399 | 76.6 | <50.0 | <50.0 | 76.6 | 76.6 | 9,420 |
| FS08 | 12/16/2021 | 0.5 | <0.00200 | <0.00400 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 5,550 |
| **Delineation Soil Samples** | | | | | | | | | | |
| PH01 | 01/13/2022 | 0.5 | <0.00199 | <0.00398 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 95.7 |
| PH01A | 01/13/2022 | 1 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 80 |
| PH02 | 01/13/2022 | 0.5 | <0.00198 | <0.00397 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 240 |
| PH02A | 01/13/2022 | 1 | <0.00199 | <0.00398 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 158 |
| PH03 | 01/13/2022 | 0.5 | <0.00201 | <0.00402 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 119 |
| PH03A | 01/13/2022 | 1 | <0.00200 | <0.00399 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 146 |
| PH04 | 01/13/2022 | 0.5 | <0.00200 | <0.00400 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 166 |
| PH04A | 01/13/2022 | 1 | <0.00199 | <0.00398 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 317 |

**Notes:**

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

ATTACHMENT 1: REFERENCED WELL RECORD

HRL COMPLIANCE SOLUTIONS

**BORING LOG/MONITORING WELL COMPLETION DIAGRAM**

| | | | |
|---|---|---|---|
| Boring/Well Number: MW-1 | | Location: RDX 17 #3 | |
| Date: 12/8/2020 | | Client: WPX Energy | |
| Drilling Method: Air Rotary | Sampling Method: None | Logged By: J. Linn, PG | Drilled By: Talon LPE |
| Gravel Pack Type: 10/20 Sand | Gravel Pack Depth Interval: 3 Bags | Seal Type: None / Seal Depth Interval: None | Latitude: 32.036765 |
| Casing Type: PVC / Diameter: 2-inch / Depth Interval: 0-102 feet bgs | | Boring Total Depth (ft. BGS): 107 | Longitude: -103.895993 |
| Screen Type: PVC / Slot: 0.010-inch / Diameter: 2-inch / Depth Interval: 102-107 ft | | Well Total Depth (ft. BGS): 107 | Depth to Water (ft. BTOC): > 107 / DTW Date: 12/16/2020 |

| Depth Interval (ft) | Recovery (ft) | Plasticity | Moisture | Odor | Staining | PID (ppm) | USCS | Sample ID | Lithology/Remarks | Well Completion |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | NM | L | D | N | N | NM | SP | NS | Pale orange poorly graded fine sand | |
| 5 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | NM | L | D | N | N | NM | SP | NS | Same as above with slight increase in coarse sand and gravel | |
| 35 | | | | | | | | | | |
| 40 | NM | L | D | N | N | NM | SP | NS | Pale orange poorly graded fine sand with very slight silt | |
| 45 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 55 | NM | L | D | N | N | NM | SP | NS | Pale orange poorly graded fine sand | |
| 60 | NM | L | D | N | N | NM | SW | NS | Pale orange well graded fine sand | |
| 65 | NM | M | SL M | N | N | NM | SM | NS | Pale red orange clayey silty fine sand with minor coarse sand and gravel | |
| 70 | | | | | | | | | | |
| 75 | | | | | | | | | | |
| 80 | | | | | | | | | | |
| 85 | | | | | | | | | | |
| 90 | NM | L | SL M | N | N | NM | SP | NS | Pale orange poorly sorted fine sand - TD 107' BGS | |
| 95 | | | | | | | | | | |
| 100 | | | | | | | | | | |
| 105 | | | | | | | | | | |

ATTACHMENT 2: PHOTOGRAPHIC LOG

| PHOTOGRAPHIC LOG | | |
|---|---|---|
| **WPX ENERGY PERMIAN, LLC** | **RDX FEDERAL COM 17 #026H Eddy County, New Mexico** | **NAPP2134444397** |

| **Photo No.** | **Date** |
|---|---|
| 1 | December 16, 2021 |

Photo taken of excavation during remediation activities.

| **Photo No.** | **Date** |
|---|---|
| 2 | December 16, 2021 |

Photo taken of excavation during remediation activities.

ATTACHMENT **3**: LITHOLOGIC/**SOIL** SAMPLING LOG

| WSP USA<br>508 West Stevens Street<br>Carlsbad, New Mexico 88220 | BH or PH Name: PH01 | |
|---|---|---|
| | Site Name: RDX FEDERAL COM 17 #026H | |
| | RP or Incident Number: nAPP2134444397 | |
| | WSP Job Number: 31403360.040 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: AB | Method: |
| Lat/Long: 32.03579, -103.89955 | Field Screening: Cl- and PID | Hole Diameter: N/A / Total Depth: **1'** |

Comments:
M-moist; D-dry; Y-yes; N-no; SAA-same as above

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | | | | | | 0 | | |
| D | 160 | 0 | N | PH01 | 0.5 | 0.5 | CCHE | CALICHE, OFF-WHITE, COARSE GRAIN, NO STAIN NO ODOR |
| D | 108 | 0 | N | PH01A | 1 | 1 | CCHE | SAA |

TOTAL DEPTH @ 1 FT BGS

| WSP USA<br>508 West Stevens Street<br>Carlsbad, New Mexico 88220 | BH or PH Name: PH02 | |
|---|---|---|
| | Site Name: RDX FEDERAL COM 17 #026H | |
| | RP or Incident Number: nAPP2134444397 | |
| | WSP Job Number: 31403360.040 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: AB | Method: |
| Lat/Long: 32.03579, -103.89955 | Field Screening: Cl- and PID | Hole Diameter: N/A / Total Depth: **1'** |

Comments:
M-moist; D-dry; Y-yes; N-no; SAA-same as above

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | | | N | | | 0 | | |
| D | 396 | 0 | N | PH02 | 0.5 | 0.5 | SP-SM | SAND, BROWN, POORLY GRADED, WELL SORTED, NO COHESIVENESS, ABUNDANT SILT, NO STAIN NO ODOR |
| D | 284 | 0 | N | PH02A | 1 | 1 | SP-SM | SAA |

TOTAL DEPTH @ 1 FT BGS

| WSP USA<br>508 West Stevens Street<br>Carlsbad, New Mexico 88220 | BH or PH Name: PH03 | |
|---|---|---|
| | Site Name: RDX FEDERAL COM 17 #026H | |
| | RP or Incident Number: nAPP2134444397 | |
| | WSP Job Number: 31403360.040 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: AB | Method: |
| Lat/Long: 32.03579, -103.89955 | Field Screening: Cl- and PID | Hole Diameter: N/A / Total Depth: **1'** |

Comments:
M-moist; D-dry; Y-yes; N-no; SAA-same as above

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | | | N | | | 0 | | |
| D | 200 | 0 | N | PH03 | 0.5 | 0.5 | SP-SM | SAND, BROWN, POORLY GRADED, WELL SORTED, NO COHESIVENESS, ABUNDANT SILT, NO STAIN NO ODOR |
| D | 220 | 0 | N | PH03A | 1 | 1 | SP-SM | SAA |

TOTAL DEPTH @ 1 FT BGS

**WSP USA**

508 West Stevens Street
Carlsbad, New Mexico 88220

| | |
|---|---|
| BH or PH Name: PH04 | |
| Site Name: RDX FEDERAL COM 17 #026H | |
| RP or Incident Number: nAPP2134444397 | |
| WSP Job Number: 31403360.040 | |

## LITHOLOGIC / SOIL SAMPLING LOG

| | | | |
|---|---|---|---|
| Logged By: AB | | Method: | |
| Lat/Long: 32.03579, -103.89955 | Field Screening: Cl- and PID | Hole Diameter: N/A | Total Depth: **1'** |

Comments:
M-moist; D-dry; Y-yes; N-no; SAA-same as above

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | | | N | | | 0 | | |
| D | 252 | 0 | N | PH04 | 0.5 | 0.5 | CCHE | CALICHE, OFF-WHITE, COARSE GRAIN, NO STAIN NO ODOR |
| D | 252 | 0 | N | PH04A | 1 | 1 | CCHE | SAA |

TOTAL DEPTH @ 1 FT BGS

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

eurofins | Environment Testing America

# ANALYTICAL REPORT

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

Laboratory Job ID: 890-1743-1
Laboratory Sample Delivery Group: 1061112901
Client Project/Site: RDX 17-26

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

Attn: Joseph Hernandez

Authorized for release by:
*12/28/2021 8:21:21 PM*

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



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

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

Client: WSP USA Inc.
Project/Site: RDX 17-26

Laboratory Job ID: 890-1743-1
SDG: 1061112901

# Table of Contents

# Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1743-1
Project/Site: RDX 17-26 SDG: 1061112901

## Qualifiers

### GC VOA

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

### GC Semi VOA

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

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Job ID: 890-1743-1

**Laboratory: Eurofins Xenco, Carlsbad**

**Narrative**

**Job Narrative**
**890-1743-1**

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

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

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

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

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

# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS01

**Lab Sample ID: 890-1743-1**
**Matrix: Solid**

**Date Collected: 12/16/21 11:45**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

### 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 | | 12/22/21 10:02 | 12/22/21 19:24 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:24 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:24 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:24 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:24 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *121* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 19:24* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 19:24* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00402 | U | 0.00402 | | mg/Kg | | | 12/28/21 08:41 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **126** | | 49.9 | | mg/Kg | | | 12/28/21 17:22 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 12:17 | 1 |
| **Diesel Range Organics (Over C10-C28)** | **126** | | 49.9 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 12:17 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 12:17 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *99* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 12:17* | *1* |
| *o-Terphenyl* | *97* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 12:17* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **14300** | | 99.0 | | mg/Kg | | | 12/22/21 12:20 | 20 |

## Client Sample ID: FS02

**Lab Sample ID: 890-1743-2**
**Matrix: Solid**

**Date Collected: 12/16/21 11:48**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:44 | 1 |
| Toluene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:44 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:44 | 1 |
| m-Xylene & p-Xylene | <0.00404 | U | 0.00404 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:44 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:44 | 1 |
| Xylenes, Total | <0.00404 | U | 0.00404 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 19:44 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *132* | *S1+* | *70 - 130* | *12/22/21 10:02* | *12/22/21 19:44* | *1* |

# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS02

**Lab Sample ID: 890-1743-2**
**Matrix: Solid**
**Date Collected: 12/16/21 11:48**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *90* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 19:44* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00404 | U | 0.00404 | | mg/Kg | | | 12/28/21 08:41 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 12/28/21 17:22 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 13:19 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 13:19 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 13:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *101* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 13:19* | *1* |
| *o-Terphenyl* | *101* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 13:19* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **24800** | | 251 | | mg/Kg | | | 12/22/21 12:30 | 50 |

## Client Sample ID: FS03

**Lab Sample ID: 890-1743-3**
**Matrix: Solid**
**Date Collected: 12/16/21 11:50**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:34 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:34 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:34 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:34 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:34 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *123* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 21:34* | *1* |
| *1,4-Difluorobenzene (Surr)* | *95* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 21:34* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00399 | U | 0.00399 | | mg/Kg | | | 12/28/21 08:41 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 12/28/21 17:22 | 1 |

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# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS03

**Lab Sample ID: 890-1743-3**
**Matrix: Solid**
**Date Collected: 12/16/21 11:50**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 13:40 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 13:40 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 13:40 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *99* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 13:40* | *1* |
| *o-Terphenyl* | *97* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 13:40* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **14500** | | 99.6 | | mg/Kg | | | 12/22/21 12:40 | 20 |

## Client Sample ID: FS04

**Lab Sample ID: 890-1743-4**
**Matrix: Solid**
**Date Collected: 12/16/21 11:54**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:54 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:54 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:54 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:54 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:54 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 21:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *129* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 21:54* | *1* |
| *1,4-Difluorobenzene (Surr)* | *94* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 21:54* | *1* |

### Method: Total BTEX - Total BTEX Calculation

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

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

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

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 16:45 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 16:45 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 16:45 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *103* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 16:45* | *1* |
| *o-Terphenyl* | *101* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 16:45* | *1* |

# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS04

**Lab Sample ID: 890-1743-4**
**Matrix: Solid**
**Date Collected: 12/16/21 11:54**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 6560 | | 49.9 | | mg/Kg | | | 12/22/21 12:50 | 10 |

## Client Sample ID: FS05

**Lab Sample ID: 890-1743-5**
**Matrix: Solid**
**Date Collected: 12/16/21 11:57**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:15 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:15 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:15 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:15 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:15 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:15 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *80* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 22:15* | *1* |
| *1,4-Difluorobenzene (Surr)* | *83* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 22:15* | *1* |

### Method: Total BTEX - Total BTEX Calculation

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

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

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

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 17:05 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 17:05 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 17:05 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *102* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 17:05* | *1* |
| *o-Terphenyl* | *99* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 17:05* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 12300 | | 100 | | mg/Kg | | | 12/22/21 13:19 | 20 |

# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS06

**Lab Sample ID: 890-1743-6**
**Matrix: Solid**
**Date Collected: 12/16/21 12:00**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:35 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:35 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:35 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:35 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:35 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *122* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 22:35* | *1* |
| *1,4-Difluorobenzene (Surr)* | *93* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 22:35* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00400 | U | 0.00400 | | mg/Kg | | | 12/28/21 08:41 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 12/28/21 17:22 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 17:26 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 17:26 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 17:26 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *102* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 17:26* | *1* |
| *o-Terphenyl* | *101* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 17:26* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **6200** | | 49.8 | | mg/Kg | | | 12/22/21 13:29 | 10 |

## Client Sample ID: FS07

**Lab Sample ID: 890-1743-7**
**Matrix: Solid**
**Date Collected: 12/16/21 12:03**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:56 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:56 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:56 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:56 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:56 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 22:56 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 22:56* | *1* |

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# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS07

**Lab Sample ID: 890-1743-7**
**Matrix: Solid**
**Date Collected: 12/16/21 12:03**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *80* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 22:56* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00399 | U | 0.00399 | | mg/Kg | | | 12/28/21 08:41 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Total TPH** | **76.6** | | 50.0 | | mg/Kg | | | 12/28/21 17:22 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 18:07 | 1 |
| **Diesel Range Organics (Over C10-C28)** | **76.6** | | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 18:07 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 18:07 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *104* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 18:07* | *1* |
| *o-Terphenyl* | *100* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 18:07* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **9420** | | 49.7 | | mg/Kg | | | 12/22/21 13:59 | 10 |

## Client Sample ID: FS08

**Lab Sample ID: 890-1743-8**
**Matrix: Solid**
**Date Collected: 12/16/21 12:06**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 23:16 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 23:16 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 23:16 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 23:16 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 23:16 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 12/22/21 10:02 | 12/22/21 23:16 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *118* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 23:16* | *1* |
| *1,4-Difluorobenzene (Surr)* | *93* | | *70 - 130* | *12/22/21 10:02* | *12/22/21 23:16* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00400 | U | 0.00400 | | mg/Kg | | | 12/28/21 08:41 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 12/28/21 17:22 | 1 |

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# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS08

**Lab Sample ID: 890-1743-8**
**Matrix: Solid**
**Date Collected: 12/16/21 12:06**
**Date Received: 12/20/21 16:59**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 18:28 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 18:28 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 18:28 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *105* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 18:28* | *1* |
| *o-Terphenyl* | *103* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 18:28* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **5550** | | 49.5 | | mg/Kg | | | 12/22/21 14:09 | 10 |

# Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | BFB1 | DFBZ1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 880-9625-A-1-A MS | Matrix Spike | 142 S1+ | 114 |
| 880-9625-A-1-B MSD | Matrix Spike Duplicate | 113 | 88 |
| 890-1743-1 | FS01 | 121 | 97 |
| 890-1743-2 | FS02 | 132 S1+ | 90 |
| 890-1743-3 | FS03 | 123 | 95 |
| 890-1743-4 | FS04 | 129 | 94 |
| 890-1743-5 | FS05 | 80 | 83 |
| 890-1743-6 | FS06 | 122 | 93 |
| 890-1743-7 | FS07 | 104 | 80 |
| 890-1743-8 | FS08 | 118 | 93 |
| LCS 880-15326/1-A | Lab Control Sample | 110 | 96 |
| LCSD 880-15326/2-A | Lab Control Sample Dup | 122 | 100 |
| MB 880-15326/5-A | Method Blank | 120 | 96 |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO1 | OTPH1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 890-1743-1 | FS01 | 99 | 97 |
| 890-1743-1 MS | FS01 | 92 | 87 |
| 890-1743-1 MSD | FS01 | 103 | 101 |
| 890-1743-2 | FS02 | 101 | 101 |
| 890-1743-3 | FS03 | 99 | 97 |
| 890-1743-4 | FS04 | 103 | 101 |
| 890-1743-5 | FS05 | 102 | 99 |
| 890-1743-6 | FS06 | 102 | 101 |
| 890-1743-7 | FS07 | 104 | 100 |
| 890-1743-8 | FS08 | 105 | 103 |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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

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

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

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

**Lab Sample ID: MB 880-15326/5-A**
**Matrix: Solid**
**Analysis Batch: 15375**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 15326**

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

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

**Lab Sample ID: LCS 880-15326/1-A**
**Matrix: Solid**
**Analysis Batch: 15375**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 15326**

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

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

**Lab Sample ID: LCSD 880-15326/2-A**
**Matrix: Solid**
**Analysis Batch: 15375**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 15326**

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

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

**Lab Sample ID: 880-9625-A-1-A MS**
**Matrix: Solid**
**Analysis Batch: 15375**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 15326**

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

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# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

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

**Lab Sample ID: 880-9625-A-1-A MS**
**Matrix: Solid**
**Analysis Batch: 15375**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 15326**

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

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

**Lab Sample ID: 880-9625-A-1-B MSD**
**Matrix: Solid**
**Analysis Batch: 15375**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 15326**

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

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

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

**Lab Sample ID: MB 880-15317/1-A**
**Matrix: Solid**
**Analysis Batch: 15328**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 15317**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 11:15 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 11:15 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 12/22/21 09:41 | 12/22/21 11:15 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *115* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 11:15* | *1* |
| *o-Terphenyl* | *120* | | *70 - 130* | *12/22/21 09:41* | *12/22/21 11:15* | *1* |

**Lab Sample ID: LCS 880-15317/2-A**
**Matrix: Solid**
**Analysis Batch: 15328**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 15317**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 791.8 | | mg/Kg | | 79 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | 1000 | 1008 | | mg/Kg | | 101 | 70 - 130 |

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# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

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

**Lab Sample ID: LCS 880-15317/2-A**
**Matrix: Solid**
**Analysis Batch: 15328**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 15317**

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 110 | | 70 - 130 |
| o-Terphenyl | 115 | | 70 - 130 |

**Lab Sample ID: LCSD 880-15317/3-A**
**Matrix: Solid**
**Analysis Batch: 15328**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 15317**

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

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 119 | | 70 - 130 |
| o-Terphenyl | 114 | | 70 - 130 |

**Lab Sample ID: 890-1743-1 MS**
**Matrix: Solid**
**Analysis Batch: 15328**

**Client Sample ID: FS01**
**Prep Type: Total/NA**
**Prep Batch: 15317**

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

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

**Lab Sample ID: 890-1743-1 MSD**
**Matrix: Solid**
**Analysis Batch: 15328**

**Client Sample ID: FS01**
**Prep Type: Total/NA**
**Prep Batch: 15317**

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

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

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-15278/1-A**
**Matrix: Solid**
**Analysis Batch: 15401**

**Client Sample ID: Method Blank**
**Prep Type: Soluble**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 12/22/21 10:00 | 1 |

**Lab Sample ID: LCS 880-15278/2-A**
**Matrix: Solid**
**Analysis Batch: 15401**

**Client Sample ID: Lab Control Sample**
**Prep Type: Soluble**

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

**Lab Sample ID: LCSD 880-15278/3-A**
**Matrix: Solid**
**Analysis Batch: 15401**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Soluble**

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

**Lab Sample ID: 890-1743-4 MS**
**Matrix: Solid**
**Analysis Batch: 15401**

**Client Sample ID: FS04**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 6560 | | 2500 | 9222 | | mg/Kg | | 107 | 90 - 110 |

**Lab Sample ID: 890-1743-4 MSD**
**Matrix: Solid**
**Analysis Batch: 15401**

**Client Sample ID: FS04**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 6560 | | 2500 | 9214 | | mg/Kg | | 106 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## GC VOA

### Prep Batch: 15326

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-1 | FS01 | Total/NA | Solid | 5035 | |
| 890-1743-2 | FS02 | Total/NA | Solid | 5035 | |
| 890-1743-3 | FS03 | Total/NA | Solid | 5035 | |
| 890-1743-4 | FS04 | Total/NA | Solid | 5035 | |
| 890-1743-5 | FS05 | Total/NA | Solid | 5035 | |
| 890-1743-6 | FS06 | Total/NA | Solid | 5035 | |
| 890-1743-7 | FS07 | Total/NA | Solid | 5035 | |
| 890-1743-8 | FS08 | Total/NA | Solid | 5035 | |
| MB 880-15326/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-15326/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-15326/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-9625-A-1-A MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-9625-A-1-B MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 15375

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-1 | FS01 | Total/NA | Solid | 8021B | 15326 |
| 890-1743-2 | FS02 | Total/NA | Solid | 8021B | 15326 |
| 890-1743-3 | FS03 | Total/NA | Solid | 8021B | 15326 |
| 890-1743-4 | FS04 | Total/NA | Solid | 8021B | 15326 |
| 890-1743-5 | FS05 | Total/NA | Solid | 8021B | 15326 |
| 890-1743-6 | FS06 | Total/NA | Solid | 8021B | 15326 |
| 890-1743-7 | FS07 | Total/NA | Solid | 8021B | 15326 |
| 890-1743-8 | FS08 | Total/NA | Solid | 8021B | 15326 |
| MB 880-15326/5-A | Method Blank | Total/NA | Solid | 8021B | 15326 |
| LCS 880-15326/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 15326 |
| LCSD 880-15326/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 15326 |
| 880-9625-A-1-A MS | Matrix Spike | Total/NA | Solid | 8021B | 15326 |
| 880-9625-A-1-B MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 15326 |

### Analysis Batch: 15505

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-1 | FS01 | Total/NA | Solid | Total BTEX | |
| 890-1743-2 | FS02 | Total/NA | Solid | Total BTEX | |
| 890-1743-3 | FS03 | Total/NA | Solid | Total BTEX | |
| 890-1743-4 | FS04 | Total/NA | Solid | Total BTEX | |
| 890-1743-5 | FS05 | Total/NA | Solid | Total BTEX | |
| 890-1743-6 | FS06 | Total/NA | Solid | Total BTEX | |
| 890-1743-7 | FS07 | Total/NA | Solid | Total BTEX | |
| 890-1743-8 | FS08 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 15317

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-1 | FS01 | Total/NA | Solid | 8015NM Prep | |
| 890-1743-2 | FS02 | Total/NA | Solid | 8015NM Prep | |
| 890-1743-3 | FS03 | Total/NA | Solid | 8015NM Prep | |
| 890-1743-4 | FS04 | Total/NA | Solid | 8015NM Prep | |
| 890-1743-5 | FS05 | Total/NA | Solid | 8015NM Prep | |
| 890-1743-6 | FS06 | Total/NA | Solid | 8015NM Prep | |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## GC Semi VOA (Continued)

### Prep Batch: 15317 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-7 | FS07 | Total/NA | Solid | 8015NM Prep | |
| 890-1743-8 | FS08 | Total/NA | Solid | 8015NM Prep | |
| MB 880-15317/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-15317/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-15317/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-1743-1 MS | FS01 | Total/NA | Solid | 8015NM Prep | |
| 890-1743-1 MSD | FS01 | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 15328

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-1 | FS01 | Total/NA | Solid | 8015B NM | 15317 |
| 890-1743-2 | FS02 | Total/NA | Solid | 8015B NM | 15317 |
| 890-1743-3 | FS03 | Total/NA | Solid | 8015B NM | 15317 |
| 890-1743-4 | FS04 | Total/NA | Solid | 8015B NM | 15317 |
| 890-1743-5 | FS05 | Total/NA | Solid | 8015B NM | 15317 |
| 890-1743-6 | FS06 | Total/NA | Solid | 8015B NM | 15317 |
| 890-1743-7 | FS07 | Total/NA | Solid | 8015B NM | 15317 |
| 890-1743-8 | FS08 | Total/NA | Solid | 8015B NM | 15317 |
| MB 880-15317/1-A | Method Blank | Total/NA | Solid | 8015B NM | 15317 |
| LCS 880-15317/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 15317 |
| LCSD 880-15317/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 15317 |
| 890-1743-1 MS | FS01 | Total/NA | Solid | 8015B NM | 15317 |
| 890-1743-1 MSD | FS01 | Total/NA | Solid | 8015B NM | 15317 |

### Analysis Batch: 15674

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-1 | FS01 | Total/NA | Solid | 8015 NM | |
| 890-1743-2 | FS02 | Total/NA | Solid | 8015 NM | |
| 890-1743-3 | FS03 | Total/NA | Solid | 8015 NM | |
| 890-1743-4 | FS04 | Total/NA | Solid | 8015 NM | |
| 890-1743-5 | FS05 | Total/NA | Solid | 8015 NM | |
| 890-1743-6 | FS06 | Total/NA | Solid | 8015 NM | |
| 890-1743-7 | FS07 | Total/NA | Solid | 8015 NM | |
| 890-1743-8 | FS08 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 15278

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-1 | FS01 | Soluble | Solid | DI Leach | |
| 890-1743-2 | FS02 | Soluble | Solid | DI Leach | |
| 890-1743-3 | FS03 | Soluble | Solid | DI Leach | |
| 890-1743-4 | FS04 | Soluble | Solid | DI Leach | |
| 890-1743-5 | FS05 | Soluble | Solid | DI Leach | |
| 890-1743-6 | FS06 | Soluble | Solid | DI Leach | |
| 890-1743-7 | FS07 | Soluble | Solid | DI Leach | |
| 890-1743-8 | FS08 | Soluble | Solid | DI Leach | |
| MB 880-15278/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-15278/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-15278/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-1743-4 MS | FS04 | Soluble | Solid | DI Leach | |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## HPLC/IC (Continued)

### Leach Batch: 15278 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-4 MSD | FS04 | Soluble | Solid | DI Leach | |

### Analysis Batch: 15401

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1743-1 | FS01 | Soluble | Solid | 300.0 | 15278 |
| 890-1743-2 | FS02 | Soluble | Solid | 300.0 | 15278 |
| 890-1743-3 | FS03 | Soluble | Solid | 300.0 | 15278 |
| 890-1743-4 | FS04 | Soluble | Solid | 300.0 | 15278 |
| 890-1743-5 | FS05 | Soluble | Solid | 300.0 | 15278 |
| 890-1743-6 | FS06 | Soluble | Solid | 300.0 | 15278 |
| 890-1743-7 | FS07 | Soluble | Solid | 300.0 | 15278 |
| 890-1743-8 | FS08 | Soluble | Solid | 300.0 | 15278 |
| MB 880-15278/1-A | Method Blank | Soluble | Solid | 300.0 | 15278 |
| LCS 880-15278/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 15278 |
| LCSD 880-15278/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 15278 |
| 890-1743-4 MS | FS04 | Soluble | Solid | 300.0 | 15278 |
| 890-1743-4 MSD | FS04 | Soluble | Solid | 300.0 | 15278 |

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS01

**Lab Sample ID: 890-1743-1**
**Matrix: Solid**
**Date Collected: 12/16/21 11:45**
**Date Received: 12/20/21 16:59**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.98 g | 5 mL | 15326 | 12/22/21 10:02 | MR | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 15375 | 12/22/21 19:24 | MR | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 15505 | 12/28/21 08:41 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 15674 | 12/28/21 17:22 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 15317 | 12/22/21 09:41 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 15328 | 12/22/21 12:17 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 15278 | 12/21/21 15:12 | CA | XEN MID |
| Soluble | Analysis | 300.0 | | 20 | | | 15401 | 12/22/21 12:20 | SC | XEN MID |

## Client Sample ID: FS02

**Lab Sample ID: 890-1743-2**
**Matrix: Solid**
**Date Collected: 12/16/21 11:48**
**Date Received: 12/20/21 16:59**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.95 g | 5 mL | 15326 | 12/22/21 10:02 | MR | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 15375 | 12/22/21 19:44 | MR | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 15505 | 12/28/21 08:41 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 15674 | 12/28/21 17:22 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 15317 | 12/22/21 09:41 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 15328 | 12/22/21 13:19 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 4.99 g | 50 mL | 15278 | 12/21/21 15:12 | CA | XEN MID |
| Soluble | Analysis | 300.0 | | 50 | | | 15401 | 12/22/21 12:30 | SC | XEN MID |

## Client Sample ID: FS03

**Lab Sample ID: 890-1743-3**
**Matrix: Solid**
**Date Collected: 12/16/21 11:50**
**Date Received: 12/20/21 16:59**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 15326 | 12/22/21 10:02 | MR | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 15375 | 12/22/21 21:34 | MR | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 15505 | 12/28/21 08:41 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 15674 | 12/28/21 17:22 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 15317 | 12/22/21 09:41 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 15328 | 12/22/21 13:40 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 15278 | 12/21/21 15:12 | CA | XEN MID |
| Soluble | Analysis | 300.0 | | 20 | | | 15401 | 12/22/21 12:40 | SC | XEN MID |

## Client Sample ID: FS04

**Lab Sample ID: 890-1743-4**
**Matrix: Solid**
**Date Collected: 12/16/21 11:54**
**Date Received: 12/20/21 16:59**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 15326 | 12/22/21 10:02 | MR | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 15375 | 12/22/21 21:54 | MR | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 15505 | 12/28/21 08:41 | AJ | XEN MID |

Eurofins Xenco, Carlsbad

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS04

**Lab Sample ID: 890-1743-4**
**Matrix: Solid**
**Date Collected: 12/16/21 11:54**
**Date Received: 12/20/21 16:59**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8015 NM | | 1 | | | 15674 | 12/28/21 17:22 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 15317 | 12/22/21 09:41 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 15328 | 12/22/21 16:45 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.01 g | 50 mL | 15278 | 12/21/21 15:12 | CA | XEN MID |
| Soluble | Analysis | 300.0 | | 10 | | | 15401 | 12/22/21 12:50 | SC | XEN MID |

## Client Sample ID: FS05

**Lab Sample ID: 890-1743-5**
**Matrix: Solid**
**Date Collected: 12/16/21 11:57**
**Date Received: 12/20/21 16:59**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 15326 | 12/22/21 10:02 | MR | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 15375 | 12/22/21 22:15 | MR | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 15505 | 12/28/21 08:41 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 15674 | 12/28/21 17:22 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 15317 | 12/22/21 09:41 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 15328 | 12/22/21 17:05 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 4.98 g | 50 mL | 15278 | 12/21/21 15:12 | CA | XEN MID |
| Soluble | Analysis | 300.0 | | 20 | | | 15401 | 12/22/21 13:19 | SC | XEN MID |

## Client Sample ID: FS06

**Lab Sample ID: 890-1743-6**
**Matrix: Solid**
**Date Collected: 12/16/21 12:00**
**Date Received: 12/20/21 16:59**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.00 g | 5 mL | 15326 | 12/22/21 10:02 | MR | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 15375 | 12/22/21 22:35 | MR | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 15505 | 12/28/21 08:41 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 15674 | 12/28/21 17:22 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.00 g | 10 mL | 15317 | 12/22/21 09:41 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 15328 | 12/22/21 17:26 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 15278 | 12/21/21 15:12 | CA | XEN MID |
| Soluble | Analysis | 300.0 | | 10 | | | 15401 | 12/22/21 13:29 | SC | XEN MID |

## Client Sample ID: FS07

**Lab Sample ID: 890-1743-7**
**Matrix: Solid**
**Date Collected: 12/16/21 12:03**
**Date Received: 12/20/21 16:59**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 15326 | 12/22/21 10:02 | MR | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 15375 | 12/22/21 22:56 | MR | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 15505 | 12/28/21 08:41 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 15674 | 12/28/21 17:22 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 15317 | 12/22/21 09:41 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 15328 | 12/22/21 18:07 | AJ | XEN MID |

Eurofins Xenco, Carlsbad

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Client Sample ID: FS07

**Date Collected: 12/16/21 12:03**
**Date Received: 12/20/21 16:59**

## Lab Sample ID: 890-1743-7

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Soluble | Leach | DI Leach | | | 5.03 g | 50 mL | 15278 | 12/21/21 15:12 | CA | XEN MID |
| Soluble | Analysis | 300.0 | | 10 | | | 15401 | 12/22/21 13:59 | SC | XEN MID |

## Client Sample ID: FS08

**Date Collected: 12/16/21 12:06**
**Date Received: 12/20/21 16:59**

## Lab Sample ID: 890-1743-8

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.00 g | 5 mL | 15326 | 12/22/21 10:02 | MR | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 15375 | 12/22/21 23:16 | MR | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 15505 | 12/28/21 08:41 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 15674 | 12/28/21 17:22 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.00 g | 10 mL | 15317 | 12/22/21 09:41 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 15328 | 12/22/21 18:28 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 15278 | 12/21/21 15:12 | CA | XEN MID |
| Soluble | Analysis | 300.0 | | 10 | | | 15401 | 12/22/21 14:09 | SC | XEN MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

## Laboratory: Eurofins Xenco, Midland

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

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

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

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

# Method Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1743-1
SDG: 1061112901

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-1743-1 | FS01 | Solid | 12/16/21 11:45 | 12/20/21 16:59 | 0.5 |
| 890-1743-2 | FS02 | Solid | 12/16/21 11:48 | 12/20/21 16:59 | 0.5 |
| 890-1743-3 | FS03 | Solid | 12/16/21 11:50 | 12/20/21 16:59 | 0.5 |
| 890-1743-4 | FS04 | Solid | 12/16/21 11:54 | 12/20/21 16:59 | 0.5 |
| 890-1743-5 | FS05 | Solid | 12/16/21 11:57 | 12/20/21 16:59 | 0.5 |
| 890-1743-6 | FS06 | Solid | 12/16/21 12:00 | 12/20/21 16:59 | 0.5 |
| 890-1743-7 | FS07 | Solid | 12/16/21 12:03 | 12/20/21 16:59 | 0.5 |
| 890-1743-8 | FS08 | Solid | 12/16/21 12:06 | 12/20/21 16:59 | 0.5 |

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# Chain of Custody

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

Work Order No: _____

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| | | | |
|---|---|---|---|
| Project Manager: | Joseph Hernandez | Bill to: (if different) | Jim Raley |
| Company Name: | WSP USA | Company Name: | WPX |
| Address: | 3300 N A Street | Address: | 5315 Buena Vista Dr |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | (281), 702-2329 | Email: | anna.byers@wsp.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | RDX 17-26 | Turn Around | |
| Project Number: | 10611129Ø1 | ☒ Routine ☐ Rush | |
| Project Location: | | Due Date: | |
| Sampler's Name: | Mercy Rotich | TAT starts the day received by the lab, if received by 4:30pm | |
| PO #: | 12/07/2021 | | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No | |
| Samples Received Intact: | (Yes) No | Thermometer ID: | T-Mauch | |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes No (N/A) | Temperature Reading: | 3.8 | |
| Total Containers: | | Corrected Temperature: | 3.6 | |

**Preservative Codes**

None: NO | DI Water: $H_2O$
Cool: Cool | MeOH: Me
HCL: HC | $HNO_3$: HN
$H_2SO_4$: $H_2$ | NaOH: Na
$H_3PO_4$: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | TPH (SW 8015 mod) | BTEX (SW 8021B) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|---|---|
| FS01 | S | 12-16-2021 | 11:45 | 0.5' | | | | X | X | X |
| FS02 | | 12-16-2021 | 11:48 | 0.5' | | | | | | |
| FS03 | | 12-16-2021 | 11:50 | 0.5' | | | | | | |
| FS04 | | 12-16-2021 | 11:54 | 0.5' | | | | | | |
| FS05 | | 12-16-2021 | 11:57 | 0.5' | | | | | | |
| FS06 | | 12-16-2021 | 12:00 | 0.5' | | | | | | |
| FS07 | | 12-16-2021 | 12:03 | 0.5' | | | | | | |
| FS08 | | 12-16-2021 | 12:06 | 0.5' | | | | | | |

890-1743 Chain of Custody

**Sample Comments**

Lost center
10611129Ø1

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag $SiO_2$ Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 | | 12/20/21 4:59 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

Incident ID: nAPP2134444347

# Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1743-1
SDG Number: 1061112901

**Login Number: 1743**
**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: 890-1743-1
SDG Number: 1061112901

**Login Number: 1743**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Xenco, Midland**
**List Creation: 12/21/21 02:08 PM**

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

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# ANALYTICAL REPORT

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

Laboratory Job ID: 890-1844-1
Laboratory Sample Delivery Group: Rural Eddy County
Client Project/Site: RDX 17-26

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

Attn: Joseph Hernandez

Authorized for release by:
*1/24/2022 6:48:10 PM*

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



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

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

Client: WSP USA Inc.
Project/Site: RDX 17-26

Laboratory Job ID: 890-1844-1
SDG: Rural Eddy County

# Table of Contents

# Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1844-1
Project/Site: RDX 17-26 SDG: Rural Eddy County

## Qualifiers

### GC VOA

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

### GC Semi VOA

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

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

## Job ID: 890-1844-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-1844-1**

**Receipt**
The sample was received on 1/18/2022 1:55 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

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

**GC Semi VOA**
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-17278 and analytical batch 880-17438 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-1838-A-1-E). Evidence of matrix interferences is not obvious.

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

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

# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

## Client Sample ID: FS02A

**Date Collected: 01/13/22 09:02**
**Date Received: 01/18/22 13:55**
**Sample Depth: 0.75**

## Lab Sample ID: 890-1844-1

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 02:19 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 02:19 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 02:19 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 02:19 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 02:19 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 02:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *126* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 02:19* | *1* |
| *1,4-Difluorobenzene (Surr)* | *94* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 02:19* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 01/24/22 17:08 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 01/24/22 16:33 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/19/22 13:54 | 01/21/22 20:34 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 01/19/22 13:54 | 01/21/22 20:34 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/19/22 13:54 | 01/21/22 20:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *74* | | *70 - 130* | *01/19/22 13:54* | *01/21/22 20:34* | *1* |
| *o-Terphenyl* | *81* | | *70 - 130* | *01/19/22 13:54* | *01/21/22 20:34* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **1830** | | 24.8 | | mg/Kg | | | 01/22/22 21:40 | 5 |

# Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

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

**Matrix: Solid**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | BFB1 | DFBZ1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 880-10289-A-115-F MS | Matrix Spike | 110 | 97 |
| 880-10289-A-115-G MSD | Matrix Spike Duplicate | 88 | 82 |
| 890-1844-1 | FS02A | 126 | 94 |
| LCS 880-17218/1-A | Lab Control Sample | 112 | 94 |
| LCSD 880-17218/2-A | Lab Control Sample Dup | 110 | 98 |
| MB 880-17131/5-A | Method Blank | 123 | 97 |
| MB 880-17218/5-A | Method Blank | 114 | 97 |

**Surrogate Legend**

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

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

**Matrix: Solid**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO1 | OTPH1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 890-1838-A-1-F MS | Matrix Spike | 73 | 71 |
| 890-1838-A-1-G MSD | Matrix Spike Duplicate | 77 | 76 |
| 890-1844-1 | FS02A | 74 | 81 |
| LCS 880-17278/2-A | Lab Control Sample | 99 | 104 |
| LCSD 880-17278/3-A | Lab Control Sample Dup | 99 | 105 |
| MB 880-17278/1-A | Method Blank | 92 | 109 |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

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

**Lab Sample ID: MB 880-17131/5-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 17131**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *123* | | *70 - 130* | *01/19/22 07:30* | *01/20/22 11:10* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *01/19/22 07:30* | *01/20/22 11:10* | *1* |

**Lab Sample ID: MB 880-17218/5-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *114* | | *70 - 130* | *01/19/22 13:45* | *01/20/22 22:47* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *01/19/22 13:45* | *01/20/22 22:47* | *1* |

**Lab Sample ID: LCS 880-17218/1-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.100 | 0.08639 | | mg/Kg | | 86 | 70 - 130 |
| Toluene | 0.100 | 0.09391 | | mg/Kg | | 94 | 70 - 130 |
| Ethylbenzene | 0.100 | 0.1005 | | mg/Kg | | 101 | 70 - 130 |
| m-Xylene & p-Xylene | 0.200 | 0.1949 | | mg/Kg | | 97 | 70 - 130 |
| o-Xylene | 0.100 | 0.09578 | | mg/Kg | | 96 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *112* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *94* | | *70 - 130* |

**Lab Sample ID: LCSD 880-17218/2-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.100 | 0.08994 | | mg/Kg | | 90 | 70 - 130 | 4 | 35 |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

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

**Lab Sample ID: LCSD 880-17218/2-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.1007 | | mg/Kg | | 101 | 70 - 130 | 7 | 35 |
| Ethylbenzene | | | 0.100 | 0.1039 | | mg/Kg | | 104 | 70 - 130 | 3 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2066 | | mg/Kg | | 103 | 70 - 130 | 6 | 35 |
| o-Xylene | | | 0.100 | 0.1011 | | mg/Kg | | 101 | 70 - 130 | 5 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *98* | | *70 - 130* |

**Lab Sample ID: 880-10289-A-115-F MS**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U F2 F1 | 0.101 | 0.03789 | F1 | mg/Kg | | 38 | 70 - 130 | | |
| Toluene | <0.00200 | U F2 F1 | 0.101 | 0.04071 | F1 | mg/Kg | | 40 | 70 - 130 | | |
| Ethylbenzene | <0.00200 | U F2 F1 | 0.101 | 0.03994 | F1 | mg/Kg | | 40 | 70 - 130 | | |
| m-Xylene & p-Xylene | <0.00400 | U F2 F1 | 0.201 | 0.07742 | F1 | mg/Kg | | 38 | 70 - 130 | | |
| o-Xylene | <0.00200 | U F2 F1 | 0.101 | 0.04275 | F1 | mg/Kg | | 42 | 70 - 130 | | |

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

**Lab Sample ID: 880-10289-A-115-G MSD**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U F2 F1 | 0.100 | 0.02260 | F2 F1 | mg/Kg | | 23 | 70 - 130 | 51 | 35 |
| Toluene | <0.00200 | U F2 F1 | 0.100 | 0.01774 | F2 F1 | mg/Kg | | 18 | 70 - 130 | 79 | 35 |
| Ethylbenzene | <0.00200 | U F2 F1 | 0.100 | 0.02099 | F2 F1 | mg/Kg | | 21 | 70 - 130 | 62 | 35 |
| m-Xylene & p-Xylene | <0.00400 | U F2 F1 | 0.200 | 0.04615 | F2 F1 | mg/Kg | | 23 | 70 - 130 | 51 | 35 |
| o-Xylene | <0.00200 | U F2 F1 | 0.100 | 0.02730 | F2 F1 | mg/Kg | | 27 | 70 - 130 | 44 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *88* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *82* | | *70 - 130* |

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

**Lab Sample ID: MB 880-17278/1-A**
**Matrix: Solid**
**Analysis Batch: 17438**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 17278**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/19/22 13:54 | 01/21/22 11:45 | 1 |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

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

**Lab Sample ID: MB 880-17278/1-A**
**Matrix: Solid**
**Analysis Batch: 17438**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 17278**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 01/19/22 13:54 | 01/21/22 11:45 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/19/22 13:54 | 01/21/22 11:45 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *92* | | *70 - 130* | *01/19/22 13:54* | *01/21/22 11:45* | *1* |
| *o-Terphenyl* | *109* | | *70 - 130* | *01/19/22 13:54* | *01/21/22 11:45* | *1* |

**Lab Sample ID: LCS 880-17278/2-A**
**Matrix: Solid**
**Analysis Batch: 17438**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 17278**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 980.3 | | mg/Kg | | 98 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | 1000 | 923.6 | | mg/Kg | | 92 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *99* | | *70 - 130* |
| *o-Terphenyl* | *104* | | *70 - 130* |

**Lab Sample ID: LCSD 880-17278/3-A**
**Matrix: Solid**
**Analysis Batch: 17438**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 17278**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 995.1 | | mg/Kg | | 100 | 70 - 130 | 1 | 20 |
| Diesel Range Organics (Over C10-C28) | 1000 | 938.2 | | mg/Kg | | 94 | 70 - 130 | 2 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *99* | | *70 - 130* |
| *o-Terphenyl* | *105* | | *70 - 130* |

**Lab Sample ID: 890-1838-A-1-F MS**
**Matrix: Solid**
**Analysis Batch: 17438**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 17278**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U F1 | 997 | 1391 | F1 | mg/Kg | | 136 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 997 | 1141 | | mg/Kg | | 112 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *73* | | *70 - 130* |
| *o-Terphenyl* | *71* | | *70 - 130* |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

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

**Lab Sample ID: 890-1838-A-1-G MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 17438** — **Prep Batch: 17278**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U F1 | 996 | 1250 | | mg/Kg | | 122 | 70 - 130 | 11 | 20 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 996 | 1250 | | mg/Kg | | 123 | 70 - 130 | 9 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *77* | | *70 - 130* |
| *o-Terphenyl* | *76* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-17337/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17523**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 01/22/22 18:36 | 1 |

**Lab Sample ID: LCS 880-17337/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17523**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloride | 250 | 258.4 | | mg/Kg | | 103 | 90 - 110 |

**Lab Sample ID: LCSD 880-17337/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17523**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 250 | 271.4 | | mg/Kg | | 109 | 90 - 110 | 5 | 20 |

**Lab Sample ID: 890-1843-A-9-D MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17523**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1650 | | 1260 | 3047 | | mg/Kg | | 110 | 90 - 110 |

**Lab Sample ID: 890-1843-A-9-E MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17523**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 1650 | | 1260 | 2862 | | mg/Kg | | 96 | 90 - 110 | 6 | 20 |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

## GC VOA

### Prep Batch: 17131

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-17131/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Prep Batch: 17218

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1844-1 | FS02A | Total/NA | Solid | 5035 | |
| MB 880-17218/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-17218/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-17218/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-10289-A-115-F MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-10289-A-115-G MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 17325

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1844-1 | FS02A | Total/NA | Solid | 8021B | 17218 |
| MB 880-17131/5-A | Method Blank | Total/NA | Solid | 8021B | 17131 |
| MB 880-17218/5-A | Method Blank | Total/NA | Solid | 8021B | 17218 |
| LCS 880-17218/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 17218 |
| LCSD 880-17218/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 17218 |
| 880-10289-A-115-F MS | Matrix Spike | Total/NA | Solid | 8021B | 17218 |
| 880-10289-A-115-G MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 17218 |

### Analysis Batch: 17647

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1844-1 | FS02A | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Prep Batch: 17278

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1844-1 | FS02A | Total/NA | Solid | 8015NM Prep | |
| MB 880-17278/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-17278/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-17278/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-1838-A-1-F MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-1838-A-1-G MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 17438

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1844-1 | FS02A | Total/NA | Solid | 8015B NM | 17278 |
| MB 880-17278/1-A | Method Blank | Total/NA | Solid | 8015B NM | 17278 |
| LCS 880-17278/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 17278 |
| LCSD 880-17278/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 17278 |
| 890-1838-A-1-F MS | Matrix Spike | Total/NA | Solid | 8015B NM | 17278 |
| 890-1838-A-1-G MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 17278 |

### Analysis Batch: 17641

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1844-1 | FS02A | Total/NA | Solid | 8015 NM | |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

## HPLC/IC

### Leach Batch: 17337

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1844-1 | FS02A | Soluble | Solid | DI Leach | |
| MB 880-17337/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-17337/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-17337/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-1843-A-9-D MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-1843-A-9-E MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 17523

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1844-1 | FS02A | Soluble | Solid | 300.0 | 17337 |
| MB 880-17337/1-A | Method Blank | Soluble | Solid | 300.0 | 17337 |
| LCS 880-17337/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 17337 |
| LCSD 880-17337/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 17337 |
| 890-1843-A-9-D MS | Matrix Spike | Soluble | Solid | 300.0 | 17337 |
| 890-1843-A-9-E MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 17337 |

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

## Client Sample ID: FS02A

**Date Collected: 01/13/22 09:02**
**Date Received: 01/18/22 13:55**

## Lab Sample ID: 890-1844-1

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 17218 | 01/19/22 13:45 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 17325 | 01/21/22 02:19 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 17647 | 01/24/22 17:08 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 17641 | 01/24/22 16:33 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 17278 | 01/19/22 13:54 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 17438 | 01/21/22 20:34 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 17337 | 01/20/22 09:19 | CH | XEN MID |
| Soluble | Analysis | 300.0 | | 5 | | | 17523 | 01/22/22 21:40 | CH | XEN MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1844-1
Project/Site: RDX 17-26 SDG: Rural Eddy County

## Laboratory: Eurofins Midland

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

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

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

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

# Method Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1844-1
SDG: Rural Eddy County

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-1844-1 | FS02A | Solid | 01/13/22 09:02 | 01/18/22 13:55 | 0.75 |

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# Chain of Custody

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

Work Order No: _____

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| | | | |
|---|---|---|---|
| Project Manager: | Joseph Hernandez | Bill to: (if different) | Jim Raley |
| Company Name: | WSP USA | Company Name: | WPX Energy |
| Address: | 3300 North A Street | Address: | 5315 Buena Vista Dr. |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 281-702-2329 | Email: | anna.byers@wsp.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | RDX 17-26 | Turn Around | |
| Project Number: | ~~3140336~~ AB | ☒ Routine ☐ Rush | |
| Project Location: | Rural Eddy Co. | Due Date: | |
| Sampler's Name: | Anna Byers | TAT starts the day received by the lab, if received by 4:30pm | |
| PO #: | nAPP2134444397 | | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No |
| Samples Received Intact: | (Yes) No | Thermometer ID: | T-NM-00 |
| Cooler Custody Seals: | Yes No (N/A) | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No (N/A) | Temperature Reading: | 1.4 |
| Total Containers: | | Corrected Temperature: | 1.2 |

**Preservative Codes**

None: NO | DI Water: $H_2O$
Cool: Cool | MeOH: Me
HCL: HC | $HNO_3$: HN
$H_2SO_4$: $H_2$ | NaOH: Na
$H_3PO_4$: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | TPH (EPA 8015 Mod) | BTEX (EPA 8021 B) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|---|---|
| FS02A | S | 1/13/22 | 0902 | 0.75' | Comp | 1 | | X | X | X |

890-1844 Chain of Custody

**Sample Comments**

Cost Center#: 1061112901
Release Date: 12/07/2021

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag $SiO_2$ Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 Anna Byers | | 1/18/22 1:55 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1844-1
SDG Number: Rural Eddy County

**Login Number: 1844**
**List Number: 1**
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1844-1
SDG Number: Rural Eddy County

**Login Number: 1844**
**List Number: 2**
**Creator: Kramer, Jessica**

**List Source: Eurofins Midland**
**List Creation: 01/19/22 01:26 PM**

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

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# ANALYTICAL REPORT

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

Laboratory Job ID: 890-1845-1
Laboratory Sample Delivery Group: Rural Eddy County
Client Project/Site: RDX 17-26

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

Attn: Joseph Hernandez

JKramer

*Authorized for release by:*
*1/26/2022 5:48:35 PM*

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



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

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

Client: WSP USA Inc.
Project/Site: RDX 17-26

Laboratory Job ID: 890-1845-1
SDG: Rural Eddy County

# Table of Contents

# Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1845-1
Project/Site: RDX 17-26 SDG: Rural Eddy County

## Qualifiers

### GC VOA

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

### GC Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| *1 | LCS/LCSD RPD exceeds control limits. |
| F1 | MS and/or MSD recovery exceeds control limits. |
| U | Indicates the analyte was analyzed for but not detected. |

### HPLC/IC

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

## Glossary

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

# Case Narrative

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Job ID: 890-1845-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-1845-1**

**Receipt**
The samples were received on 1/18/2022 1:54 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

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

**GC Semi VOA**
Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-17332 and analytical batch 880-17331 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28)

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-17332 and analytical batch 880-17331 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

**HPLC/IC**
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-17555 and analytical batch 880-17726 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Client Sample ID: PH01

**Date Collected: 01/13/22 08:50**
**Date Received: 01/18/22 13:54**
**Sample Depth: 0.5**

**Lab Sample ID: 890-1845-1**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:10 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:10 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:10 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:10 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:10 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:10 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *122* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 04:10* | *1* |
| *1,4-Difluorobenzene (Surr)* | *99* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 04:10* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 01/24/22 17:08 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 01/24/22 16:33 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 01:32 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U *1 | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 01:32 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 01:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *94* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 01:32* | *1* |
| *o-Terphenyl* | *96* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 01:32* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **95.7** | | 5.04 | | mg/Kg | | | 01/22/22 21:47 | 1 |

## Client Sample ID: PH01

**Date Collected: 01/13/22 08:52**
**Date Received: 01/18/22 13:54**
**Sample Depth: 1**

**Lab Sample ID: 890-1845-2**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:30 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:30 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:30 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:30 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:30 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:30 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *128* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 04:30* | *1* |

# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Client Sample ID: PH01

**Lab Sample ID: 890-1845-2**
**Matrix: Solid**
**Date Collected: 01/13/22 08:52**
**Date Received: 01/18/22 13:54**
**Sample Depth: 1**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *105* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 04:30* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 01/24/22 17:08 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.9 | U | 49.9 | | mg/Kg | | | 01/24/22 16:33 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 01:53 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U *1 | 49.9 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 01:53 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 01:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *91* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 01:53* | *1* |
| *o-Terphenyl* | *93* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 01:53* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **80.0** | | 24.9 | | mg/Kg | | | 01/26/22 15:58 | 5 |

## Client Sample ID: PH02

**Lab Sample ID: 890-1845-3**
**Matrix: Solid**
**Date Collected: 01/13/22 09:30**
**Date Received: 01/18/22 13:54**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00198 | U | 0.00198 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:50 | 1 |
| Toluene | <0.00198 | U | 0.00198 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:50 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:50 | 1 |
| m-Xylene & p-Xylene | <0.00397 | U | 0.00397 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:50 | 1 |
| o-Xylene | <0.00198 | U | 0.00198 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:50 | 1 |
| Xylenes, Total | <0.00397 | U | 0.00397 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 04:50 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *125* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 04:50* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 04:50* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00397 | U | 0.00397 | | mg/Kg | | | 01/24/22 17:08 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 01/24/22 16:33 | 1 |

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# Client Sample Results

Client: WSP USA Inc. Job ID: 890-1845-1
Project/Site: RDX 17-26 SDG: Rural Eddy County

## Client Sample ID: PH02 Lab Sample ID: 890-1845-3

**Date Collected: 01/13/22 09:30** **Matrix: Solid**
**Date Received: 01/18/22 13:54**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 02:13 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U *1 | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 02:13 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 02:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *91* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 02:13* | *1* |
| *o-Terphenyl* | *93* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 02:13* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **240** | | 4.99 | | mg/Kg | | | 01/22/22 18:37 | 1 |

## Client Sample ID: PH02 Lab Sample ID: 890-1845-4

**Date Collected: 01/13/22 09:32** **Matrix: Solid**
**Date Received: 01/18/22 13:54**
**Sample Depth: 1**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:11 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:11 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:11 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:11 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:11 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *129* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 05:11* | *1* |
| *1,4-Difluorobenzene (Surr)* | *102* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 05:11* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 01/24/22 17:08 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 01/24/22 16:33 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 02:34 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U *1 | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 02:34 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 02:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *108* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 02:34* | *1* |
| *o-Terphenyl* | *113* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 02:34* | *1* |

# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Client Sample ID: PH02

**Lab Sample ID: 890-1845-4**
**Matrix: Solid**
**Date Collected: 01/13/22 09:32**
**Date Received: 01/18/22 13:54**
**Sample Depth: 1**

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 158 | | 4.98 | | mg/Kg | | | 01/22/22 18:49 | 1 |

## Client Sample ID: PH03

**Lab Sample ID: 890-1845-5**
**Matrix: Solid**
**Date Collected: 01/13/22 11:02**
**Date Received: 01/18/22 13:54**
**Sample Depth: 0.5**

### 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 | | 01/19/22 13:45 | 01/21/22 05:31 | 1 |
| Toluene | <0.00201 | U | 0.00201 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:31 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:31 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:31 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:31 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:31 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *122* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 05:31* | *1* |
| *1,4-Difluorobenzene (Surr)* | *106* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 05:31* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00402 | U | 0.00402 | | mg/Kg | | | 01/24/22 17:08 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 01/24/22 16:33 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 02:54 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U *1 | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 02:54 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 02:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *93* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 02:54* | *1* |
| *o-Terphenyl* | *95* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 02:54* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 119 | | 5.00 | | mg/Kg | | | 01/22/22 19:00 | 1 |

# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Client Sample ID: PH03

**Lab Sample ID: 890-1845-6**
**Matrix: Solid**
**Date Collected: 01/13/22 11:05**
**Date Received: 01/18/22 13:54**
**Sample Depth: 1**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:52 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:52 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:52 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:52 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:52 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 05:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *130* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 05:52* | *1* |
| *1,4-Difluorobenzene (Surr)* | *104* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 05:52* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00399 | U | 0.00399 | | mg/Kg | | | 01/24/22 17:08 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 01/24/22 16:33 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 03:14 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U *1 | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 03:14 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 03:14 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *91* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 03:14* | *1* |
| *o-Terphenyl* | *94* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 03:14* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **146** | | 4.95 | | mg/Kg | | | 01/22/22 19:12 | 1 |

## Client Sample ID: PH04

**Lab Sample ID: 890-1845-7**
**Matrix: Solid**
**Date Collected: 01/13/22 09:50**
**Date Received: 01/18/22 13:54**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:12 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:12 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:12 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:12 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:12 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *129* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 06:12* | *1* |

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# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Client Sample ID: PH04
**Date Collected: 01/13/22 09:50**
**Date Received: 01/18/22 13:54**
**Sample Depth: 0.5**

## Lab Sample ID: 890-1845-7
**Matrix: Solid**

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

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *105* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 06:12* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00400 | U | 0.00400 | | mg/Kg | | | 01/24/22 17:08 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 01/24/22 16:33 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 03:35 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U *1 | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 03:35 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 03:35 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *95* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 03:35* | *1* |
| *o-Terphenyl* | *97* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 03:35* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **166** | | 5.04 | | mg/Kg | | | 01/22/22 19:48 | 1 |

## Client Sample ID: PH04
**Date Collected: 01/13/22 09:52**
**Date Received: 01/18/22 13:54**
**Sample Depth: 1**

## Lab Sample ID: 890-1845-8
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:33 | 1 |
| Toluene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:33 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:33 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:33 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:33 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | | mg/Kg | | 01/19/22 13:45 | 01/21/22 06:33 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *134* | *S1+* | *70 - 130* | *01/19/22 13:45* | *01/21/22 06:33* | *1* |
| *1,4-Difluorobenzene (Surr)* | *98* | | *70 - 130* | *01/19/22 13:45* | *01/21/22 06:33* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00398 | U | 0.00398 | | mg/Kg | | | 01/24/22 17:08 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 01/24/22 16:33 | 1 |

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# Client Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Client Sample ID: PH04

**Date Collected: 01/13/22 09:52**
**Date Received: 01/18/22 13:54**
**Sample Depth: 1**

## Lab Sample ID: 890-1845-8

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 03:56 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U *1 | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 03:56 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/21/22 03:56 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *90* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 03:56* | *1* |
| *o-Terphenyl* | *92* | | *70 - 130* | *01/20/22 08:47* | *01/21/22 03:56* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **317** | | 5.01 | | mg/Kg | | | 01/22/22 20:00 | 1 |

# Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | BFB1 | DFBZ1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 880-10289-A-115-F MS | Matrix Spike | 110 | 97 |
| 880-10289-A-115-G MSD | Matrix Spike Duplicate | 88 | 82 |
| 890-1845-1 | PH01 | 122 | 99 |
| 890-1845-2 | PH01 | 128 | 105 |
| 890-1845-3 | PH02 | 125 | 97 |
| 890-1845-4 | PH02 | 129 | 102 |
| 890-1845-5 | PH03 | 122 | 106 |
| 890-1845-6 | PH03 | 130 | 104 |
| 890-1845-7 | PH04 | 129 | 105 |
| 890-1845-8 | PH04 | 134 S1+ | 98 |
| LCS 880-17218/1-A | Lab Control Sample | 112 | 94 |
| LCSD 880-17218/2-A | Lab Control Sample Dup | 110 | 98 |
| MB 880-17131/5-A | Method Blank | 123 | 97 |
| MB 880-17218/5-A | Method Blank | 114 | 97 |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO1 | OTPH1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 880-10347-A-1-G MS | Matrix Spike | 103 | 88 |
| 880-10347-A-1-H MSD | Matrix Spike Duplicate | 109 | 90 |
| 890-1845-1 | PH01 | 94 | 96 |
| 890-1845-2 | PH01 | 91 | 93 |
| 890-1845-3 | PH02 | 91 | 93 |
| 890-1845-4 | PH02 | 108 | 113 |
| 890-1845-5 | PH03 | 93 | 95 |
| 890-1845-6 | PH03 | 91 | 94 |
| 890-1845-7 | PH04 | 95 | 97 |
| 890-1845-8 | PH04 | 90 | 92 |

**Surrogate Legend**

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO2 | OTPH2 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| LCS 880-17332/2-A | Lab Control Sample | 110 | 102 |
| LCSD 880-17332/3-A | Lab Control Sample Dup | 124 | 120 |
| MB 880-17332/1-A | Method Blank | 94 | 97 |

**Surrogate Legend**

1CO = 1-Chlorooctane

# Surrogate Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

OTPH = o-Terphenyl

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

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

**Lab Sample ID: MB 880-17131/5-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 17131**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 07:30 | 01/20/22 11:10 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *123* | | *70 - 130* | *01/19/22 07:30* | *01/20/22 11:10* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *01/19/22 07:30* | *01/20/22 11:10* | *1* |

**Lab Sample ID: MB 880-17218/5-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 01/19/22 13:45 | 01/20/22 22:47 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *114* | | *70 - 130* | *01/19/22 13:45* | *01/20/22 22:47* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *01/19/22 13:45* | *01/20/22 22:47* | *1* |

**Lab Sample ID: LCS 880-17218/1-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 0.100 | 0.08639 | | mg/Kg | | 86 | 70 - 130 |
| Toluene | 0.100 | 0.09391 | | mg/Kg | | 94 | 70 - 130 |
| Ethylbenzene | 0.100 | 0.1005 | | mg/Kg | | 101 | 70 - 130 |
| m-Xylene & p-Xylene | 0.200 | 0.1949 | | mg/Kg | | 97 | 70 - 130 |
| o-Xylene | 0.100 | 0.09578 | | mg/Kg | | 96 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *112* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *94* | | *70 - 130* |

**Lab Sample ID: LCSD 880-17218/2-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.100 | 0.08994 | | mg/Kg | | 90 | 70 - 130 | 4 | 35 |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

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

**Lab Sample ID: LCSD 880-17218/2-A**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.1007 | | mg/Kg | | 101 | 70 - 130 | 7 | 35 |
| Ethylbenzene | | | 0.100 | 0.1039 | | mg/Kg | | 104 | 70 - 130 | 3 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2066 | | mg/Kg | | 103 | 70 - 130 | 6 | 35 |
| o-Xylene | | | 0.100 | 0.1011 | | mg/Kg | | 101 | 70 - 130 | 5 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *98* | | *70 - 130* |

**Lab Sample ID: 880-10289-A-115-F MS**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U F2 F1 | 0.101 | 0.03789 | F1 | mg/Kg | | 38 | 70 - 130 |
| Toluene | <0.00200 | U F2 F1 | 0.101 | 0.04071 | F1 | mg/Kg | | 40 | 70 - 130 |
| Ethylbenzene | <0.00200 | U F2 F1 | 0.101 | 0.03994 | F1 | mg/Kg | | 40 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00400 | U F2 F1 | 0.201 | 0.07742 | F1 | mg/Kg | | 38 | 70 - 130 |
| o-Xylene | <0.00200 | U F2 F1 | 0.101 | 0.04275 | F1 | mg/Kg | | 42 | 70 - 130 |

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

**Lab Sample ID: 880-10289-A-115-G MSD**
**Matrix: Solid**
**Analysis Batch: 17325**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 17218**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U F2 F1 | 0.100 | 0.02260 | F2 F1 | mg/Kg | | 23 | 70 - 130 | 51 | 35 |
| Toluene | <0.00200 | U F2 F1 | 0.100 | 0.01774 | F2 F1 | mg/Kg | | 18 | 70 - 130 | 79 | 35 |
| Ethylbenzene | <0.00200 | U F2 F1 | 0.100 | 0.02099 | F2 F1 | mg/Kg | | 21 | 70 - 130 | 62 | 35 |
| m-Xylene & p-Xylene | <0.00400 | U F2 F1 | 0.200 | 0.04615 | F2 F1 | mg/Kg | | 23 | 70 - 130 | 51 | 35 |
| o-Xylene | <0.00200 | U F2 F1 | 0.100 | 0.02730 | F2 F1 | mg/Kg | | 27 | 70 - 130 | 44 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *88* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *82* | | *70 - 130* |

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

**Lab Sample ID: MB 880-17332/1-A**
**Matrix: Solid**
**Analysis Batch: 17331**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 17332**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/20/22 19:44 | 1 |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

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

**Lab Sample ID: MB 880-17332/1-A**
**Matrix: Solid**
**Analysis Batch: 17331**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 17332**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/20/22 19:44 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 01/20/22 08:47 | 01/20/22 19:44 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *94* | | *70 - 130* | *01/20/22 08:47* | *01/20/22 19:44* | *1* |
| *o-Terphenyl* | *97* | | *70 - 130* | *01/20/22 08:47* | *01/20/22 19:44* | *1* |

**Lab Sample ID: LCS 880-17332/2-A**
**Matrix: Solid**
**Analysis Batch: 17331**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 17332**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 886.3 | | mg/Kg | | 89 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | 1000 | 934.1 | | mg/Kg | | 93 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *110* | | *70 - 130* |
| *o-Terphenyl* | *102* | | *70 - 130* |

**Lab Sample ID: LCSD 880-17332/3-A**
**Matrix: Solid**
**Analysis Batch: 17331**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 17332**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 1065 | | mg/Kg | | 106 | 70 - 130 | 18 | 20 |
| Diesel Range Organics (Over C10-C28) | 1000 | 1170 | *1 | mg/Kg | | 117 | 70 - 130 | 22 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *124* | | *70 - 130* |
| *o-Terphenyl* | *120* | | *70 - 130* |

**Lab Sample ID: 880-10347-A-1-G MS**
**Matrix: Solid**
**Analysis Batch: 17331**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 17332**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U F1 | 997 | 1520 | F1 | mg/Kg | | 150 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U F1 *1 | 997 | 1532 | F1 | mg/Kg | | 154 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *103* | | *70 - 130* |
| *o-Terphenyl* | *88* | | *70 - 130* |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

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

**Lab Sample ID: 880-10347-A-1-H MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 17331** — **Prep Batch: 17332**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U F1 | 996 | 1598 | F1 | mg/Kg | | 158 | 70 - 130 | 5 | 20 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U F1 *1 | 996 | 1621 | F1 | mg/Kg | | 163 | 70 - 130 | 6 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *109* | | *70 - 130* |
| *o-Terphenyl* | *90* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-17338/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17519**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 01/22/22 17:26 | 1 |

**Lab Sample ID: LCS 880-17338/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17519**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloride | 250 | 253.1 | | mg/Kg | | 101 | 90 - 110 |

**Lab Sample ID: LCSD 880-17338/3-A** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17519**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 250 | 268.1 | | mg/Kg | | 107 | 90 - 110 | 6 | 20 |

**Lab Sample ID: 880-10291-A-49-G MS** — **Client Sample ID: Matrix Spike**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17519**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 170 | | 250 | 418.5 | | mg/Kg | | 100 | 90 - 110 |

**Lab Sample ID: 880-10291-A-49-H MSD** — **Client Sample ID: Matrix Spike Duplicate**
**Matrix: Solid** — **Prep Type: Soluble**
**Analysis Batch: 17519**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 170 | | 250 | 429.2 | | mg/Kg | | 104 | 90 - 110 | 3 | 20 |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MB 880-17337/1-A**
**Matrix: Solid**
**Analysis Batch: 17523**

**Client Sample ID: Method Blank**
**Prep Type: Soluble**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 01/22/22 18:36 | 1 |

**Lab Sample ID: LCS 880-17337/2-A**
**Matrix: Solid**
**Analysis Batch: 17523**

**Client Sample ID: Lab Control Sample**
**Prep Type: Soluble**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloride | 250 | 258.4 | | mg/Kg | | 103 | 90 - 110 |

**Lab Sample ID: LCSD 880-17337/3-A**
**Matrix: Solid**
**Analysis Batch: 17523**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Soluble**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 250 | 271.4 | | mg/Kg | | 109 | 90 - 110 | 5 | 20 |

**Lab Sample ID: 890-1843-A-19-D MS**
**Matrix: Solid**
**Analysis Batch: 17523**

**Client Sample ID: Matrix Spike**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 238 | | 248 | 505.9 | | mg/Kg | | 108 | 90 - 110 |

**Lab Sample ID: 890-1843-A-19-E MSD**
**Matrix: Solid**
**Analysis Batch: 17523**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 238 | | 248 | 465.2 | | mg/Kg | | 92 | 90 - 110 | 8 | 20 |

**Lab Sample ID: MB 880-17555/1-A**
**Matrix: Solid**
**Analysis Batch: 17726**

**Client Sample ID: Method Blank**
**Prep Type: Soluble**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 01/26/22 10:14 | 1 |

**Lab Sample ID: LCS 880-17555/2-A**
**Matrix: Solid**
**Analysis Batch: 17726**

**Client Sample ID: Lab Control Sample**
**Prep Type: Soluble**

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

**Lab Sample ID: LCSD 880-17555/3-A**
**Matrix: Solid**
**Analysis Batch: 17726**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Soluble**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 250 | 247.2 | | mg/Kg | | 99 | 90 - 110 | 1 | 20 |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: 880-10439-A-8-C MS**
**Matrix: Solid**
**Analysis Batch: 17726**

**Client Sample ID: Matrix Spike**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 18100 | F1 | 4950 | 23170 | | mg/Kg | | 102 | 90 - 110 |

**Lab Sample ID: 880-10439-A-8-D MSD**
**Matrix: Solid**
**Analysis Batch: 17726**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 18100 | F1 | 4950 | 23920 | F1 | mg/Kg | | 117 | 90 - 110 | 3 | 20 |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## GC VOA

### Prep Batch: 17131

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-17131/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Prep Batch: 17218

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-1 | PH01 | Total/NA | Solid | 5035 | |
| 890-1845-2 | PH01 | Total/NA | Solid | 5035 | |
| 890-1845-3 | PH02 | Total/NA | Solid | 5035 | |
| 890-1845-4 | PH02 | Total/NA | Solid | 5035 | |
| 890-1845-5 | PH03 | Total/NA | Solid | 5035 | |
| 890-1845-6 | PH03 | Total/NA | Solid | 5035 | |
| 890-1845-7 | PH04 | Total/NA | Solid | 5035 | |
| 890-1845-8 | PH04 | Total/NA | Solid | 5035 | |
| MB 880-17218/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-17218/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-17218/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-10289-A-115-F MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-10289-A-115-G MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 17325

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-1 | PH01 | Total/NA | Solid | 8021B | 17218 |
| 890-1845-2 | PH01 | Total/NA | Solid | 8021B | 17218 |
| 890-1845-3 | PH02 | Total/NA | Solid | 8021B | 17218 |
| 890-1845-4 | PH02 | Total/NA | Solid | 8021B | 17218 |
| 890-1845-5 | PH03 | Total/NA | Solid | 8021B | 17218 |
| 890-1845-6 | PH03 | Total/NA | Solid | 8021B | 17218 |
| 890-1845-7 | PH04 | Total/NA | Solid | 8021B | 17218 |
| 890-1845-8 | PH04 | Total/NA | Solid | 8021B | 17218 |
| MB 880-17131/5-A | Method Blank | Total/NA | Solid | 8021B | 17131 |
| MB 880-17218/5-A | Method Blank | Total/NA | Solid | 8021B | 17218 |
| LCS 880-17218/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 17218 |
| LCSD 880-17218/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 17218 |
| 880-10289-A-115-F MS | Matrix Spike | Total/NA | Solid | 8021B | 17218 |
| 880-10289-A-115-G MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 17218 |

### Analysis Batch: 17647

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-1 | PH01 | Total/NA | Solid | Total BTEX | |
| 890-1845-2 | PH01 | Total/NA | Solid | Total BTEX | |
| 890-1845-3 | PH02 | Total/NA | Solid | Total BTEX | |
| 890-1845-4 | PH02 | Total/NA | Solid | Total BTEX | |
| 890-1845-5 | PH03 | Total/NA | Solid | Total BTEX | |
| 890-1845-6 | PH03 | Total/NA | Solid | Total BTEX | |
| 890-1845-7 | PH04 | Total/NA | Solid | Total BTEX | |
| 890-1845-8 | PH04 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Analysis Batch: 17331

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-1 | PH01 | Total/NA | Solid | 8015B NM | 17332 |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## GC Semi VOA (Continued)

### Analysis Batch: 17331 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-2 | PH01 | Total/NA | Solid | 8015B NM | 17332 |
| 890-1845-3 | PH02 | Total/NA | Solid | 8015B NM | 17332 |
| 890-1845-4 | PH02 | Total/NA | Solid | 8015B NM | 17332 |
| 890-1845-5 | PH03 | Total/NA | Solid | 8015B NM | 17332 |
| 890-1845-6 | PH03 | Total/NA | Solid | 8015B NM | 17332 |
| 890-1845-7 | PH04 | Total/NA | Solid | 8015B NM | 17332 |
| 890-1845-8 | PH04 | Total/NA | Solid | 8015B NM | 17332 |
| MB 880-17332/1-A | Method Blank | Total/NA | Solid | 8015B NM | 17332 |
| LCS 880-17332/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 17332 |
| LCSD 880-17332/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 17332 |
| 880-10347-A-1-G MS | Matrix Spike | Total/NA | Solid | 8015B NM | 17332 |
| 880-10347-A-1-H MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 17332 |

### Prep Batch: 17332

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-1 | PH01 | Total/NA | Solid | 8015NM Prep | |
| 890-1845-2 | PH01 | Total/NA | Solid | 8015NM Prep | |
| 890-1845-3 | PH02 | Total/NA | Solid | 8015NM Prep | |
| 890-1845-4 | PH02 | Total/NA | Solid | 8015NM Prep | |
| 890-1845-5 | PH03 | Total/NA | Solid | 8015NM Prep | |
| 890-1845-6 | PH03 | Total/NA | Solid | 8015NM Prep | |
| 890-1845-7 | PH04 | Total/NA | Solid | 8015NM Prep | |
| 890-1845-8 | PH04 | Total/NA | Solid | 8015NM Prep | |
| MB 880-17332/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-17332/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-17332/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 880-10347-A-1-G MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 880-10347-A-1-H MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 17641

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-1 | PH01 | Total/NA | Solid | 8015 NM | |
| 890-1845-2 | PH01 | Total/NA | Solid | 8015 NM | |
| 890-1845-3 | PH02 | Total/NA | Solid | 8015 NM | |
| 890-1845-4 | PH02 | Total/NA | Solid | 8015 NM | |
| 890-1845-5 | PH03 | Total/NA | Solid | 8015 NM | |
| 890-1845-6 | PH03 | Total/NA | Solid | 8015 NM | |
| 890-1845-7 | PH04 | Total/NA | Solid | 8015 NM | |
| 890-1845-8 | PH04 | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 17337

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-1 | PH01 | Soluble | Solid | DI Leach | |
| MB 880-17337/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-17337/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-17337/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-1843-A-19-D MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-1843-A-19-E MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## HPLC/IC

### Leach Batch: 17338

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-3 | PH02 | Soluble | Solid | DI Leach | |
| 890-1845-4 | PH02 | Soluble | Solid | DI Leach | |
| 890-1845-5 | PH03 | Soluble | Solid | DI Leach | |
| 890-1845-6 | PH03 | Soluble | Solid | DI Leach | |
| 890-1845-7 | PH04 | Soluble | Solid | DI Leach | |
| 890-1845-8 | PH04 | Soluble | Solid | DI Leach | |
| MB 880-17338/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-17338/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-17338/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 880-10291-A-49-G MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 880-10291-A-49-H MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 17519

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-3 | PH02 | Soluble | Solid | 300.0 | 17338 |
| 890-1845-4 | PH02 | Soluble | Solid | 300.0 | 17338 |
| 890-1845-5 | PH03 | Soluble | Solid | 300.0 | 17338 |
| 890-1845-6 | PH03 | Soluble | Solid | 300.0 | 17338 |
| 890-1845-7 | PH04 | Soluble | Solid | 300.0 | 17338 |
| 890-1845-8 | PH04 | Soluble | Solid | 300.0 | 17338 |
| MB 880-17338/1-A | Method Blank | Soluble | Solid | 300.0 | 17338 |
| LCS 880-17338/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 17338 |
| LCSD 880-17338/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 17338 |
| 880-10291-A-49-G MS | Matrix Spike | Soluble | Solid | 300.0 | 17338 |
| 880-10291-A-49-H MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 17338 |

### Analysis Batch: 17523

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-1 | PH01 | Soluble | Solid | 300.0 | 17337 |
| MB 880-17337/1-A | Method Blank | Soluble | Solid | 300.0 | 17337 |
| LCS 880-17337/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 17337 |
| LCSD 880-17337/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 17337 |
| 890-1843-A-19-D MS | Matrix Spike | Soluble | Solid | 300.0 | 17337 |
| 890-1843-A-19-E MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 17337 |

### Leach Batch: 17555

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-2 | PH01 | Soluble | Solid | DI Leach | |
| MB 880-17555/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-17555/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-17555/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 880-10439-A-8-C MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 880-10439-A-8-D MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

### Analysis Batch: 17726

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1845-2 | PH01 | Soluble | Solid | 300.0 | 17555 |
| MB 880-17555/1-A | Method Blank | Soluble | Solid | 300.0 | 17555 |
| LCS 880-17555/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 17555 |
| LCSD 880-17555/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 17555 |
| 880-10439-A-8-C MS | Matrix Spike | Soluble | Solid | 300.0 | 17555 |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## HPLC/IC (Continued)

### Analysis Batch: 17726 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 880-10439-A-8-D MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 17555 |

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Client Sample ID: PH01
**Date Collected: 01/13/22 08:50**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-1
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 17218 | 01/19/22 13:45 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 17325 | 01/21/22 04:10 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 17647 | 01/24/22 17:08 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 17641 | 01/24/22 16:33 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 17332 | 01/20/22 08:47 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 17331 | 01/21/22 01:32 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 4.96 g | 50 mL | 17337 | 01/20/22 09:19 | CH | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | | | 17523 | 01/22/22 21:47 | CH | XEN MID |

## Client Sample ID: PH01
**Date Collected: 01/13/22 08:52**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-2
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 17218 | 01/19/22 13:45 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 17325 | 01/21/22 04:30 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 17647 | 01/24/22 17:08 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 17641 | 01/24/22 16:33 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 17332 | 01/20/22 08:47 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 17331 | 01/21/22 01:53 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 17555 | 01/24/22 10:16 | CH | XEN MID |
| Soluble | Analysis | 300.0 | | 5 | | | 17726 | 01/26/22 15:58 | CH | XEN MID |

## Client Sample ID: PH02
**Date Collected: 01/13/22 09:30**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-3
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.04 g | 5 mL | 17218 | 01/19/22 13:45 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 17325 | 01/21/22 04:50 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 17647 | 01/24/22 17:08 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 17641 | 01/24/22 16:33 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.00 g | 10 mL | 17332 | 01/20/22 08:47 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 17331 | 01/21/22 02:13 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.01 g | 50 mL | 17338 | 01/20/22 09:22 | CH | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | | | 17519 | 01/22/22 18:37 | CH | XEN MID |

## Client Sample ID: PH02
**Date Collected: 01/13/22 09:32**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-4
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 17218 | 01/19/22 13:45 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 17325 | 01/21/22 05:11 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 17647 | 01/24/22 17:08 | AJ | XEN MID |

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Client Sample ID: PH02
**Date Collected: 01/13/22 09:32**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-4
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8015 NM | | 1 | | | 17641 | 01/24/22 16:33 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 17332 | 01/20/22 08:47 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 17331 | 01/21/22 02:34 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.02 g | 50 mL | 17338 | 01/20/22 09:22 | CH | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | | | 17519 | 01/22/22 18:49 | CH | XEN MID |

## Client Sample ID: PH03
**Date Collected: 01/13/22 11:02**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-5
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 4.97 g | 5 mL | 17218 | 01/19/22 13:45 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 17325 | 01/21/22 05:31 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 17647 | 01/24/22 17:08 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 17641 | 01/24/22 16:33 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.00 g | 10 mL | 17332 | 01/20/22 08:47 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 17331 | 01/21/22 02:54 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5 g | 50 mL | 17338 | 01/20/22 09:22 | CH | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | | | 17519 | 01/22/22 19:00 | CH | XEN MID |

## Client Sample ID: PH03
**Date Collected: 01/13/22 11:05**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-6
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 17218 | 01/19/22 13:45 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 17325 | 01/21/22 05:52 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 17647 | 01/24/22 17:08 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 17641 | 01/24/22 16:33 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 17332 | 01/20/22 08:47 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 17331 | 01/21/22 03:14 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 17338 | 01/20/22 09:22 | CH | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | | | 17519 | 01/22/22 19:12 | CH | XEN MID |

## Client Sample ID: PH04
**Date Collected: 01/13/22 09:50**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-7
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.00 g | 5 mL | 17218 | 01/19/22 13:45 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 17325 | 01/21/22 06:12 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 17647 | 01/24/22 17:08 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 17641 | 01/24/22 16:33 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.00 g | 10 mL | 17332 | 01/20/22 08:47 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 17331 | 01/21/22 03:35 | AJ | XEN MID |

Eurofins Carlsbad

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Client Sample ID: PH04
**Date Collected: 01/13/22 09:50**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-7
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Soluble | Leach | DI Leach | | | 4.96 g | 50 mL | 17338 | 01/20/22 09:22 | CH | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | | | 17519 | 01/22/22 19:48 | CH | XEN MID |

## Client Sample ID: PH04
**Date Collected: 01/13/22 09:52**
**Date Received: 01/18/22 13:54**

## Lab Sample ID: 890-1845-8
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 17218 | 01/19/22 13:45 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 17325 | 01/21/22 06:33 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 17647 | 01/24/22 17:08 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 17641 | 01/24/22 16:33 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 17332 | 01/20/22 08:47 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 17331 | 01/21/22 03:56 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 4.99 g | 50 mL | 17338 | 01/20/22 09:22 | CH | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | | | 17519 | 01/22/22 20:00 | CH | XEN MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

## Laboratory: Eurofins Midland

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

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

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

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

# Method Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

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

**Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

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

# Sample Summary

Client: WSP USA Inc.
Project/Site: RDX 17-26

Job ID: 890-1845-1
SDG: Rural Eddy County

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-1845-1 | PH01 | Solid | 01/13/22 08:50 | 01/18/22 13:54 | 0.5 |
| 890-1845-2 | PH01 | Solid | 01/13/22 08:52 | 01/18/22 13:54 | 1 |
| 890-1845-3 | PH02 | Solid | 01/13/22 09:30 | 01/18/22 13:54 | 0.5 |
| 890-1845-4 | PH02 | Solid | 01/13/22 09:32 | 01/18/22 13:54 | 1 |
| 890-1845-5 | PH03 | Solid | 01/13/22 11:02 | 01/18/22 13:54 | 0.5 |
| 890-1845-6 | PH03 | Solid | 01/13/22 11:05 | 01/18/22 13:54 | 1 |
| 890-1845-7 | PH04 | Solid | 01/13/22 09:50 | 01/18/22 13:54 | 0.5 |
| 890-1845-8 | PH04 | Solid | 01/13/22 09:52 | 01/18/22 13:54 | 1 |

eurofins | Environment Testing Xenco

# Chain of Custody

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

Work Order No: _____

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| | | | |
|---|---|---|---|
| Project Manager: | Joseph Hernandez | Bill to: (if different) | Jim Raley |
| Company Name: | WSP USA | Company Name: | WPX Energy |
| Address: | 3300 North A Street | Address: | 5315 Buena Vista Dr. |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | (281) 702-2329 | Email: | anna.byers@wsp.com |

**Work Order Comments**

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

| | | | |
|---|---|---|---|
| Project Name: | RDX 17-26 | Turn Around | |
| Project Number: | release date: 12/7/21 | ☒ Routine ☐ Rush | |
| Project Location: | Rural Eddy County | Due Date: | |
| Sampler's Name: | Anna Byers | TAT starts the day received by the lab, if received by 4:30pm | |
| PO #: | nAPP2134444397 | | |

| SAMPLE RECEIPT | | | |
|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No |
| Samples Received Intact: | Yes No | Thermometer ID: | T-NM-002 |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 |
| Sample Custody Seals: | Yes No N/A | Temperature Reading: | 1.4 |
| Total Containers: | | Corrected Temperature: | 1.2 |

**Preservative Codes**

None: NO | DI Water: $H_2O$
Cool: Cool | MeOH: Me
HCL: HC | $HNO_3$: HN
$H_2SO_4$: $H_2$ | NaOH: Na
$H_3PO_4$: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

ANALYSIS REQUEST

Parameters: TPH (EPA 8015 Mod) | BTEX (EPA 8021B) | Chloride (EPA 300.0)

890-1845 Chain of Custody

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/ Comp | # of Cont | Pres. Code | Sample Comments |
|---|---|---|---|---|---|---|---|---|
| FS QB PH01 | S | 1/13/22 | 0850 | 0.5' | Grab | 1 | | Cost Center #: |
| PH01 | | | 0852 | 1' | | 1 | | 1061112901 |
| PH02 | | | 0930 | 0.5' | | 1 | | |
| PH02 | | | 0932 | 1' | | 1 | | |
| PH03 | | | 1102 | 0.5' | | 1 | | |
| PH03 | | | 1105 | 1' | | 1 | | |
| PH04 | | | 0950 | 0.5' | | 1 | | |
| PH04 | ↓ | ↓ | 0952 | 1' | ↓ | 1 | | |

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag $SiO_2$ Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 Anna Byers | | 1/18/22 1:54 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date: 08/25/2020 Rev. 2020.2

# Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1845-1
SDG Number: Rural Eddy County

**Login Number: 1845**
**List Number: 1**
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1845-1
SDG Number: Rural Eddy County

**Login Number: 1845**
**List Number: 2**
**Creator: Kramer, Jessica**

**List Source: Eurofins Midland**
**List Creation: 01/19/22 01:26 PM**

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

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

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

CONDITIONS

Action 94784

## CONDITIONS

| | |
|---|---|
| Operator:<br>WPX Energy Permian, LLC<br>Devon Energy - Regulatory<br>Oklahoma City, OK 73102 | OGRID:<br>246289 |
| | Action Number:<br>94784 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| jnobui | Closure Report Approved. Please implement 19.15.29.13 NMAC when completing P&A. | 5/4/2022 |