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 | NAPP2134945825 |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

## Responsible Party

| | |
|---|---|
| Responsible Party XTO Energy | OGRID 5380 |
| Contact Name Shelby Pennington | Contact Telephone 281-723-9353 |
| Contact email shelby.g.pennington@exxonmobil.com | Incident # *(assigned by OCD)* |
| Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707 | |

## Location of Release Source

Latitude 32.12400 Longitude -103.89590
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name Pierce Canyon 17 | Site Type Tank Battery |
| Date Release Discovered 12/12/2021 | API# *(if applicable)* |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| P | 17 | 25S | 30E | Eddy |

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Produced Water | Volume Released (bbls) | Volume Recovered (bbls) |
| | Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l? | ☐ Yes ☐ No |
| ☒ Condensate | Volume Released (bbls) .05 | Volume Recovered (bbls) 0.0 |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release: Pressure valve malfunctioned, causing fluid to release from flare and ignite. Flames extinguished upon reaching the ground. A third-party contractor has been retained for remediation purposes.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2134945825 |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|---|---|
| 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?<br>A release that results in a fire or is the result of a fire. |

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes, by Adrian Baker to Mike Bratcher and Robert Hamlet on 12/13/2021 3:12 pm via email.

## 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:
NA

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: Shelby Pennington  Title: Environmental Manager

Signature: Shelby Pennington  Date: 12/15/21

email: shelby.g.pennington@exxonmobil.com  Telephone: 281-723-9353

**OCD Only**

Received by: Ramona Marcus  Date: 12/20/2021

NAPP2134945825

| | | |
|---|---|---|
| **Location:** | **Pierce Canyon 17 Tank Battery** | |
| **Spill Date:** | **12/12/2021** | |
| **Area 1** | | |
| Approximate Area = | 405.00 | sq. ft. |
| Average Saturation (or depth) of spill = | 0.25 | inches |
| | | |
| Average Porosity Factor = | 0.03 | |
| | | |
| VOLUME OF LEAK | | |
| Total Condensate = | 0.05 | bbls |
| Total Produced Water = | 0.00 | bbls |
| **TOTAL VOLUME OF LEAK** | | |
| **Total Condensate=** | **0.05** | **bbls** |
| **Total Produced Water =** | **0.00** | **bbls** |
| **TOTAL VOLUME RECOVERED** | | |
| **Total Condensate=** | **0.00** | **bbls** |
| **Total Produced Water =** | **0.00** | **bbls** |

**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 67249

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>67249 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| rmarcus | None | 12/20/2021 |

| | |
|---|---|
| Incident ID | NAPP2134945825 |
| 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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2134945825 |
| District RP | |
| Facility ID | |
| Application ID | |

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

Printed Name: _____Adrian Baker_____ Title: _____Environmental Coordinator_____

Signature: _____ _____ Date: _____03/11/2022_____

Email: _____adrian.baker@exxonmobil.com_____ Telephone: _____(432)-236-3808_____

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NAPP2134945825 |
| 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: Adrian Baker  Title: Environmental Coordinator

Signature: Adrian Baker  Date: 03/11/2022

email: adrian.baker@exxonmobil.com  Telephone: (432)-236-3808

**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: 03/22/2022

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 11, 2022

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

**RE: Closure Request**
**Pierce Canyon 17**
**Incident Number NAPP2134945825**
**Eddy County, New Mexico**

To Whom it May Concern:

WSP USA Inc. (WSP) on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment and soil sampling activities at Pierce Canyon 17 (Site) in Unit P, Section 17, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a small condensate release and flare fire at the Site. Based on the site assessment activities and laboratory analytical results from the soil sampling events, XTO is submitting this Closure Request, and requesting no further action (NFA) for Incident Number NAPP2134945825.

## RELEASE BACKGROUND

On December 12, 2021, a pressure valve malfunction caused approximately 0.05 bbls of condensate to release from the flare, which resulted in a small fire. The fire extinguished itself on the ground and there were no fluids to recover. XTO reported the release via email to the New Mexico Oil Conservation Division (NMOCD) on December 13, 2021, and submitted a Release Notification Form C-141 (Form C-141) on December 15, 2021. The release was assigned Incident Number NAPP2134945825.

## SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted water well is United States Geological Survey (USGS) well 320628103533001, located approximately 1.08 miles south of the Site. The groundwater well has a reported depth to groundwater of 264.6 feet bgs and a total depth of 288 feet bgs. Ground surface elevation at the well location is 3,207 feet above mean sea level (amsl), which is approximately 2,219 feet higher in elevation than the Site.

All wells used for depth to groundwater determination are depicted on Figure 1. The referenced well records are included in Attachment 1.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 2,996 feet southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

**CLOSURE CRITERIA**

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

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

**SITE ASSESSMENT AND DELINEATION ACTIVITIES**

On February 22, 2022, WSP personnel were at the Site to evaluate the release extent based on information provided on the Form C-141, visual observations, and information provided by on-site XTO personnel. Two potholes were advanced to a depth of 2 feet bgs within the release extent, to assess for the presence or absence of impacted soil. Two delineation samples (SS01/SS01A and SS02/SS02A) were collected from each pothole at depths of 0.5 feet and 2 feet bgs, respectively. The delineation soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the pothole delineation samples were logged on lithologic/soil sampling logs, which are included in Attachment 2. Field screening results indicated no impacts to soil; however, surficial staining from the fire was scraped up and removed from the Site. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Attachment 3.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were

transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

**SOIL ANALYTICAL RESULTS**

Laboratory analytical results for delineation soil samples SS01/SS01A and SS02/SS02A indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

**CLOSURE REQUEST**

Site assessment and delineation soil sampling activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from the December 12, 2021, condensate release and flare fire. Laboratory analytical results for the soil samples collected within the release extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. Based on the soil sample analytical results, no impacted soil was identified, and no further remediation was required. As such, XTO respectfully requests no further action for Incident Number NAPP2134945825.

If you have any questions or comments, please do not hesitate to contact Ms. Aimee Cole at (720) 384-7365.

Sincerely,

WSP USA Inc.

Nihaar Katoch
Assistant Consultant, Geologist

Aimee Cole
Senior Consultant, Environmental Scientist

cc: Shelby Pennington, XTO
Adrian Baker, XTO
Bureau of Land Management

Attachments:

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

FIGURES

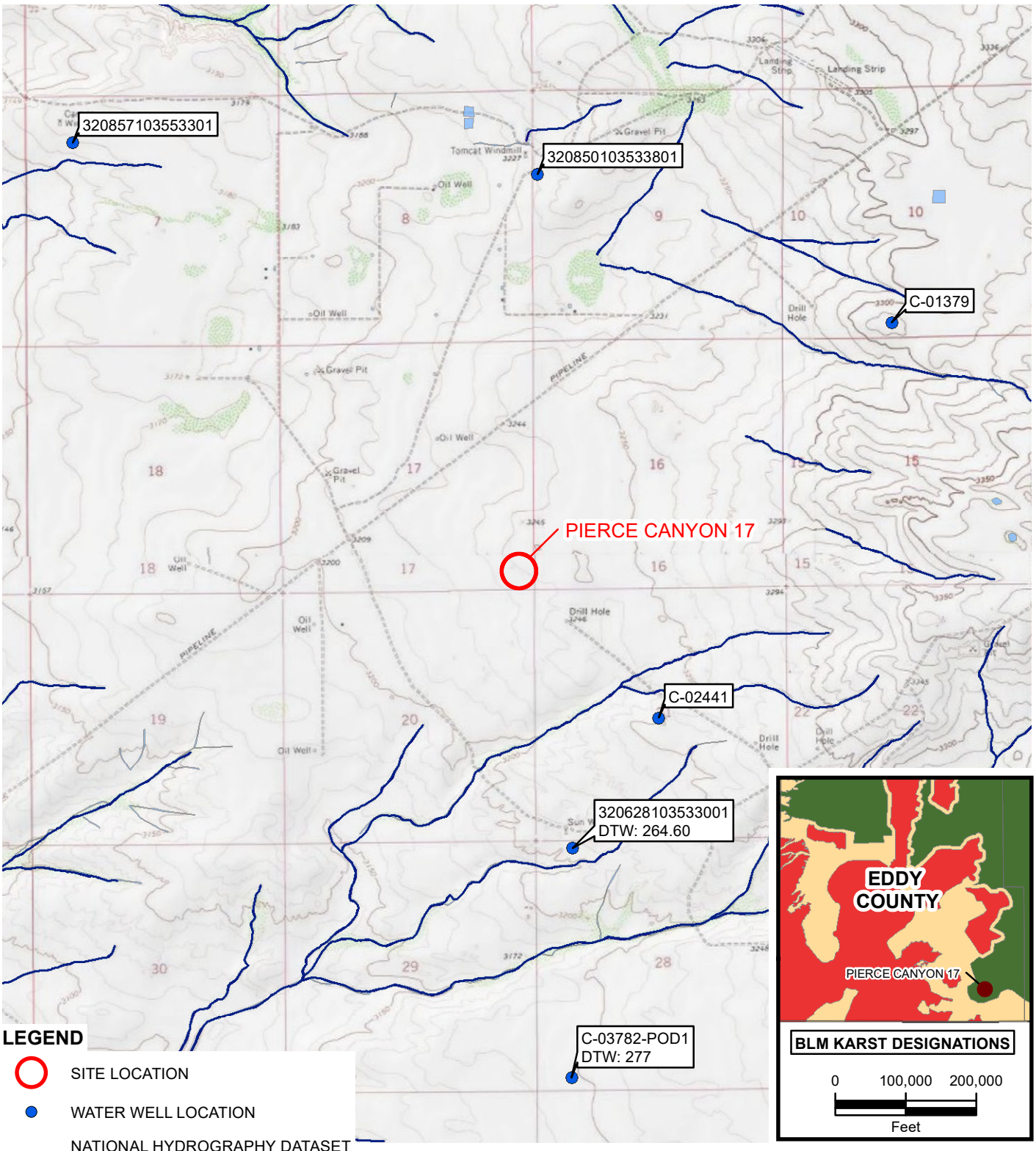



FIGURE 1
SITE LOCATION MAP
PIERCE CANYON 17
UNIT P SEC 17 T25S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

C:\Users\USTJ689650\OneDrive - WSP O365\XTO\31403236.020.0129.23_PIERCE CANYON 17 TANK BATTERY\MXD\31403236.020.0129.23_FIG01_SL_RECEPTOR_2022.mxd


**LEGEND**

DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

RELEASE EXTENT

IMAGE COURTESY OF ESRI

0 50 100

Feet

N

NOTE: INCIDENT NUMBER NAPP2134945825
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
PIERCE CANYON 17
UNIT P SEC 17 T25S R30E
EDDY COUNTY, NEW MEXICO
**XTO ENERGY, INC.**

P:\XTO Energy\GIS\31403236.020.0129.23_PIERCE CANYON 17 TANK BATTERY\MXD\31403236.020.0129.23_FIG02_DELINEATION_2022.mxd

TABLES

**Table 1**

**Soil Analytical Results**
**Pierce Canyon 17**
**Incident Number NAPP2134945825**
**Eddy County, New Mexico**

| Sample ID | Sample Date | Sample Depth (ft bgs) | Benzene (mg/kg) | BTEX (mg/kg) | TPH-GRO (mg/kg) | TPH-DRO (mg/kg) | TPH-ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria (NMAC 19.15.29)** | | | **10** | **50** | NE | NE | NE | **1,000** | **2,500** | **20,000** |
| **Delineation Soil Samples** | | | | | | | | | | |
| SS01 | 2/22/2022 | 0.5 | <0.00200 | <0.00399 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 74.1 |
| SS01A | 2/22/2022 | 2 | <0.00202 | <0.00403 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 149 |
| SS02 | 2/22/2022 | 0.5 | <0.00200 | <0.00401 | <49.8 | <49.8 | <49.8 | <49.8 | <49.8 | 229 |
| SS02A | 2/22/2022 | 2 | <0.00202 | <0.00404 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 143 |

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 - motor oil range organics
NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
< - indicates result is less than the stated laboratory method practical quantitation limit
NE - Not Established

ATTACHMENT 1: REFERENCED WELL RECORDS

USGS Home
Contact USGS
Search USGS

# National Water Information System: Web Interface

USGS Water Resources (Cooperator Access) Data Category: Groundwater Geographic Area: United States GO

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

## Search Results -- 1 sites found

**site_no list =**

- 320628103533001

**Minimum number of levels =** 1

Save file of selected sites to local disk for future upload

---

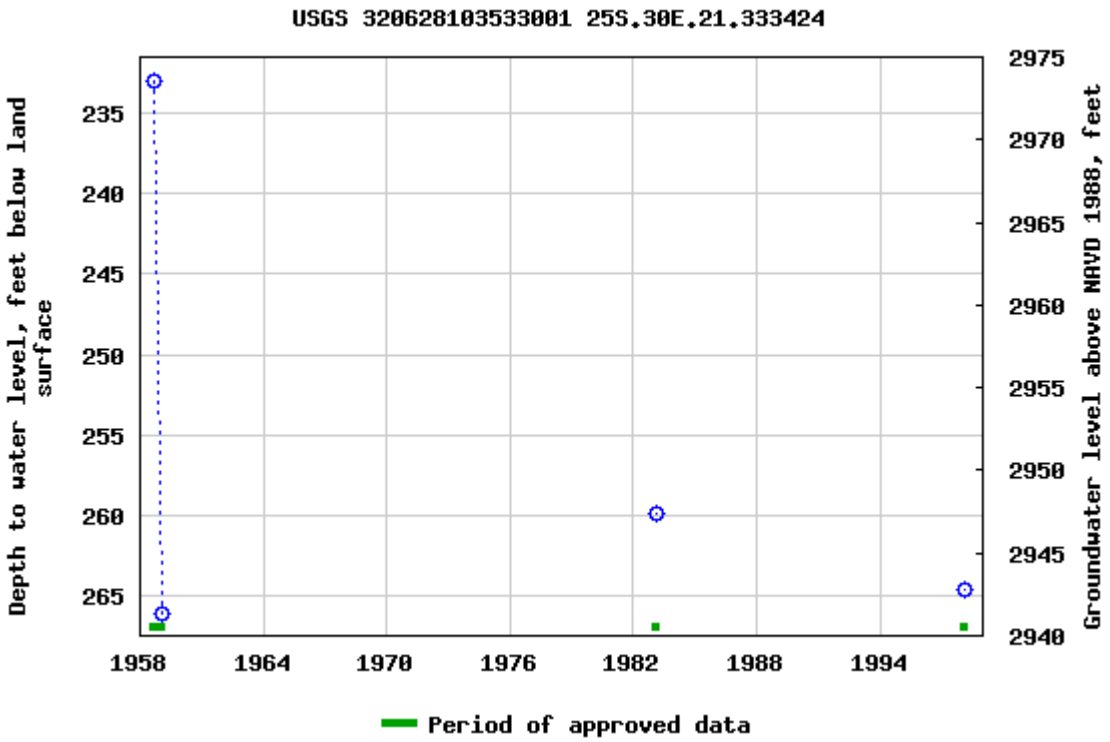
## USGS 320628103533001 25S.30E.21.333424

Available data for this site Groundwater: Field measurements GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°06'28", Longitude 103°53'30" NAD27
Land-surface elevation 3,207 feet above NAVD88
The depth of the well is 288 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

**Output formats**

| |
|---|
| Table of data |
| Tab-separated data |
| Graph of data |
| Reselect period |




Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

---

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

# *New Mexico Office of the State Engineer*
# Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

| Well Tag | POD Number | Q64 | Q16 | Q4 | Sec | Twn | Rng | X | Y |
|---|---|---|---|---|---|---|---|---|---|
| | C 03782 POD1 | 4 | 3 | 3 | 28 | 25S | 30E | 604526 | 3551444 |

**Driller License:** 331 **Driller Company:** SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.

**Driller Name:**

**Drill Start Date:** 01/16/2015 **Drill Finish Date:** 01/17/2015 **Plug Date:**

**Log File Date:** 02/19/2015 **PCW Rcv Date:** **Source:** Artesian

**Pump Type:** **Pipe Discharge Size:** **Estimated Yield:**

**Casing Size:** 8.63 **Depth Well:** 805 feet **Depth Water:** 277 feet

| Water Bearing Stratifications: | Top | Bottom | Description |
|---|---|---|---|
| | 260 | 320 | Sandstone/Gravel/Conglomerate |
| | 320 | 380 | Sandstone/Gravel/Conglomerate |
| | 380 | 410 | Sandstone/Gravel/Conglomerate |
| | 410 | 530 | Shale/Mudstone/Siltstone |
| | 530 | 590 | Shale/Mudstone/Siltstone |
| | 590 | 600 | Shale/Mudstone/Siltstone |
| | 600 | 630 | Shale/Mudstone/Siltstone |
| | 630 | 650 | Shale/Mudstone/Siltstone |
| | 650 | 700 | Shale/Mudstone/Siltstone |
| | 700 | 710 | Shale/Mudstone/Siltstone |
| | 710 | 760 | Shale/Mudstone/Siltstone |
| | 760 | 770 | Shale/Mudstone/Siltstone |
| | 770 | 780 | Shale/Mudstone/Siltstone |
| | 780 | 790 | Shale/Mudstone/Siltstone |
| | 790 | 805 | Shale/Mudstone/Siltstone |

| Casing Perforations: | Top | Bottom |
|---|---|---|
| | 270 | 805 |

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOGS

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

| | | |
|---|---|---|
| BH or PH Name: **SS 01** | | Date: **02-22-2022** |
| Site Name: **Pierce Canyon 17** | | |
| RP or Incident Number: **NAPP2134945825** | | |
| WSP Job Number: | **31403236.020.0129** | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: **AC** | Method: **Backhoe** |
| Lat/Long: **32.12400, -103.89590** | Field Screening: **TPH, Chloride** | Hole Diameter: |
| | | Total Depth: **2 feet** |

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | 235.2 | 1.3 | N | SS01 | 0.5 | 0.5 | SP+CCHE | Sand/Caliche |
| D | 196 | 0.7 | N | SS01A | 2 | 2 | CCHE | Caliche |

TD @ 2 ft bgs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: **SS 02**

Date: **02-22-2022**

Site Name: **Pierce Canyon 17**

RP or Incident Number: **NAPP2134945825**

WSP Job Number: **31403236.020.0129**

## LITHOLOGIC / SOIL SAMPLING LOG

Logged By: **AC**

Method: **Backhoe**

Lat/Long: **32.12400, -103.89590**

Field Screening: **TPH, Chloride**

Hole Diameter:

Total Depth: **2 feet**

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample # | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithology/Remarks |
|---|---|---|---|---|---|---|---|---|
| D | 464.8 | 0.8 | N | SS02 | 0.5 | 0.5 | SP+CCHE | Sand/Caliche |
| D | 414.4 | 0.2 | N | SS02A | 2 | 2 | CCHE | Caliche |

TD @ 2 ft bgs

ATTACHMENT 3: PHOTOGRAPHIC LOG

| PHOTOGRAPHIC LOG | | |
|---|---|---|
| XTO Energy | Pierce Canyon 17 | NAPP2134945825 |

| Photo No. | Date |
|---|---|
| 1 | February 22, 2022 |

View of release extent facing northwest.

| PHOTOGRAPHIC LOG | | |
|---|---|---|
| XTO Energy | Pierce Canyon 17 | NAPP2134945825 |

| Photo No. | Date |
|---|---|
| 2 | February 22, 2022 |

View of surface staining removal facing southwest.

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing America

# ANALYTICAL REPORT

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

Laboratory Job ID: 890-2028-1
Laboratory Sample Delivery Group: 31403236.020.0129
Client Project/Site: PC 17 TB

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

Attn: Tacoma Morrissey

JKramer

*Authorized for release by:*
*3/1/2022 6:52:29 PM*

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

Client: WSP USA Inc.
Project/Site: PC 17 TB

Laboratory Job ID: 890-2028-1
SDG: 31403236.020.0129

# Table of Contents

# Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-2028-1
Project/Site: PC 17 TB SDG: 31403236.020.0129

## 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: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## Job ID: 890-2028-1

**Laboratory: Eurofins Carlsbad**

**Narrative**

**Job Narrative**
**890-2028-1**

**Receipt**
The samples were received on 2/28/2022 9:23 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C

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

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

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

# Client Sample Results

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## Client Sample ID: SS01

**Lab Sample ID: 890-2028-1**
**Matrix: Solid**
**Date Collected: 02/22/22 10:45**
**Date Received: 02/28/22 09:23**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:01 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:01 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:01 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:01 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:01 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 14:01* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 14:01* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00399 | U | 0.00399 | | mg/Kg | | | 02/28/22 19:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 03/01/22 19:07 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 13:31 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 13:31 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 13:31 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *107* | | *70 - 130* | *03/01/22 13:00* | *03/01/22 13:31* | *1* |
| *o-Terphenyl* | *106* | | *70 - 130* | *03/01/22 13:00* | *03/01/22 13:31* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **74.1** | | 5.01 | | mg/Kg | | | 03/01/22 13:22 | 1 |

## Client Sample ID: SS02

**Lab Sample ID: 890-2028-2**
**Matrix: Solid**
**Date Collected: 02/22/22 10:50**
**Date Received: 02/28/22 09:23**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:21 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:21 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:21 | 1 |
| m-Xylene & p-Xylene | <0.00401 | U | 0.00401 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:21 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:21 | 1 |
| Xylenes, Total | <0.00401 | U | 0.00401 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:21 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 14:21* | *1* |

# Client Sample Results

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## Client Sample ID: SS02

**Date Collected: 02/22/22 10:50**
**Date Received: 02/28/22 09:23**
**Sample Depth: 0.5**

## Lab Sample ID: 890-2028-2

**Matrix: Solid**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 14:21* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00401 | U | 0.00401 | | mg/Kg | | | 02/28/22 19:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <49.8 | U | 49.8 | | mg/Kg | | | 03/01/22 19:07 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.8 | U | 49.8 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 13:52 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.8 | U | 49.8 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 13:52 | 1 |
| OII Range Organics (Over C28-C36) | <49.8 | U | 49.8 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 13:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *98* | | *70 - 130* | *03/01/22 13:00* | *03/01/22 13:52* | *1* |
| *o-Terphenyl* | *100* | | *70 - 130* | *03/01/22 13:00* | *03/01/22 13:52* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **229** | | 5.00 | | mg/Kg | | | 03/01/22 13:31 | 1 |

## Client Sample ID: SS01A

**Date Collected: 02/22/22 12:15**
**Date Received: 02/28/22 09:23**
**Sample Depth: 2**

## Lab Sample ID: 890-2028-3

**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.00202 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:42 | 1 |
| Toluene | <0.00202 | U | 0.00202 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:42 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:42 | 1 |
| m-Xylene & p-Xylene | <0.00403 | U | 0.00403 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:42 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:42 | 1 |
| Xylenes, Total | <0.00403 | U | 0.00403 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 14:42 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *99* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 14:42* | *1* |
| *1,4-Difluorobenzene (Surr)* | *97* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 14:42* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00403 | U | 0.00403 | | mg/Kg | | | 02/28/22 19:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 03/01/22 19:07 | 1 |

Eurofins Carlsbad

# Client Sample Results

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## Client Sample ID: SS01A

**Lab Sample ID: 890-2028-3**
**Matrix: Solid**
**Date Collected: 02/22/22 12:15**
**Date Received: 02/28/22 09:23**
**Sample Depth: 2**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 14:13 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 14:13 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 14:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *99* | | *70 - 130* | *03/01/22 13:00* | *03/01/22 14:13* | *1* |
| *o-Terphenyl* | *97* | | *70 - 130* | *03/01/22 13:00* | *03/01/22 14:13* | *1* |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **149** | | 4.99 | | mg/Kg | | | 03/01/22 13:39 | 1 |

## Client Sample ID: SS02A

**Lab Sample ID: 890-2028-4**
**Matrix: Solid**
**Date Collected: 02/22/22 12:25**
**Date Received: 02/28/22 09:23**
**Sample Depth: 2**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00202 | U | 0.00202 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 15:02 | 1 |
| Toluene | <0.00202 | U | 0.00202 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 15:02 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 15:02 | 1 |
| m-Xylene & p-Xylene | <0.00404 | U | 0.00404 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 15:02 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 15:02 | 1 |
| Xylenes, Total | <0.00404 | U | 0.00404 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 15:02 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 15:02* | *1* |
| *1,4-Difluorobenzene (Surr)* | *99* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 15:02* | *1* |

### Method: Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total BTEX | <0.00404 | U | 0.00404 | | mg/Kg | | | 02/28/22 19:17 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total TPH | <50.0 | U | 50.0 | | mg/Kg | | | 03/01/22 19:07 | 1 |

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 14:34 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 14:34 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 03/01/22 13:00 | 03/01/22 14:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *99* | | *70 - 130* | *03/01/22 13:00* | *03/01/22 14:34* | *1* |
| *o-Terphenyl* | *94* | | *70 - 130* | *03/01/22 13:00* | *03/01/22 14:34* | *1* |

# Client Sample Results

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

**Client Sample ID: SS02A**
**Date Collected: 02/22/22 12:25**
**Date Received: 02/28/22 09:23**
**Sample Depth: 2**

**Lab Sample ID: 890-2028-4**
**Matrix: Solid**

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

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 143 | | 5.03 | | mg/Kg | | | 03/01/22 13:48 | 1 |

# Surrogate Summary

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## 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) |
| 880-11807-A-1-E MS | Matrix Spike | 131 S1+ | 92 |
| 880-11807-A-1-F MSD | Matrix Spike Duplicate | 98 | 96 |
| 890-2028-1 | SS01 | 100 | 97 |
| 890-2028-2 | SS02 | 99 | 97 |
| 890-2028-3 | SS01A | 99 | 97 |
| 890-2028-4 | SS02A | 100 | 99 |
| LCS 880-20522/1-A | Lab Control Sample | 97 | 98 |
| LCSD 880-20522/2-A | Lab Control Sample Dup | 100 | 101 |
| MB 880-20522/5-A | Method Blank | 100 | 95 |

**Surrogate Legend**

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

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

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | 1CO1 | OTPH1 |
| Lab Sample ID | Client Sample ID | (70-130) | (70-130) |
| 890-2016-A-1-E MS | Matrix Spike | 88 | 84 |
| 890-2016-A-1-F MSD | Matrix Spike Duplicate | 92 | 84 |
| 890-2028-1 | SS01 | 107 | 106 |
| 890-2028-2 | SS02 | 98 | 100 |
| 890-2028-3 | SS01A | 99 | 97 |
| 890-2028-4 | SS02A | 99 | 94 |
| LCS 880-20521/2-A | Lab Control Sample | 99 | 100 |
| LCSD 880-20521/3-A | Lab Control Sample Dup | 100 | 90 |
| MB 880-20521/1-A | Method Blank | 98 | 99 |

**Surrogate Legend**

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

# QC Sample Results

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

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

**Lab Sample ID: MB 880-20522/5-A**
**Matrix: Solid**
**Analysis Batch: 20576**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 20522**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 11:37 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 11:37 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 11:37 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 11:37 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 11:37 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 03/01/22 10:15 | 03/01/22 11:37 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 11:37* | *1* |
| *1,4-Difluorobenzene (Surr)* | *95* | | *70 - 130* | *03/01/22 10:15* | *03/01/22 11:37* | *1* |

**Lab Sample ID: LCS 880-20522/1-A**
**Matrix: Solid**
**Analysis Batch: 20576**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 20522**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.09996 | | mg/Kg | | 100 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.09986 | | mg/Kg | | 100 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.09875 | | mg/Kg | | 99 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.2011 | | mg/Kg | | 101 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.09772 | | mg/Kg | | 98 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *98* | | *70 - 130* |

**Lab Sample ID: LCSD 880-20522/2-A**
**Matrix: Solid**
**Analysis Batch: 20576**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 20522**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1053 | | mg/Kg | | 105 | 70 - 130 | 5 | 35 |
| Toluene | | | 0.100 | 0.1041 | | mg/Kg | | 104 | 70 - 130 | 4 | 35 |
| Ethylbenzene | | | 0.100 | 0.1029 | | mg/Kg | | 103 | 70 - 130 | 4 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.2106 | | mg/Kg | | 105 | 70 - 130 | 5 | 35 |
| o-Xylene | | | 0.100 | 0.1026 | | mg/Kg | | 103 | 70 - 130 | 5 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *100* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *101* | | *70 - 130* |

**Lab Sample ID: 880-11807-A-1-E MS**
**Matrix: Solid**
**Analysis Batch: 20576**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 20522**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U F1 | 0.0996 | 0.06922 | F1 | mg/Kg | | 69 | 70 - 130 | | |
| Toluene | <0.00199 | U F1 | 0.0996 | 0.06835 | F1 | mg/Kg | | 68 | 70 - 130 | | |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

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

**Lab Sample ID: 880-11807-A-1-E MS**
**Matrix: Solid**
**Analysis Batch: 20576**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 20522**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | <0.00199 | U F1 | 0.0996 | 0.08253 | | mg/Kg | | 83 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00398 | U F1 F2 | 0.199 | 0.1606 | | mg/Kg | | 81 | 70 - 130 |
| o-Xylene | <0.00199 | U | 0.0996 | 0.09406 | | mg/Kg | | 94 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *131* | *S1+* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *92* | | *70 - 130* |

**Lab Sample ID: 880-11807-A-1-F MSD**
**Matrix: Solid**
**Analysis Batch: 20576**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 20522**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | U F1 | 0.0992 | 0.07112 | | mg/Kg | | 72 | 70 - 130 | 3 | 35 |
| Toluene | <0.00199 | U F1 | 0.0992 | 0.05015 | F1 | mg/Kg | | 50 | 70 - 130 | 31 | 35 |
| Ethylbenzene | <0.00199 | U F1 | 0.0992 | 0.05936 | F1 | mg/Kg | | 60 | 70 - 130 | 33 | 35 |
| m-Xylene & p-Xylene | <0.00398 | U F1 F2 | 0.198 | 0.1068 | F1 F2 | mg/Kg | | 54 | 70 - 130 | 40 | 35 |
| o-Xylene | <0.00199 | U | 0.0992 | 0.07037 | | mg/Kg | | 71 | 70 - 130 | 29 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *98* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *96* | | *70 - 130* |

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

**Lab Sample ID: MB 880-20521/1-A**
**Matrix: Solid**
**Analysis Batch: 20583**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 20521**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | | mg/Kg | | 02/28/22 14:24 | 03/01/22 10:41 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 02/28/22 14:24 | 03/01/22 10:41 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 02/28/22 14:24 | 03/01/22 10:41 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *98* | | *70 - 130* | *02/28/22 14:24* | *03/01/22 10:41* | *1* |
| *o-Terphenyl* | *99* | | *70 - 130* | *02/28/22 14:24* | *03/01/22 10:41* | *1* |

**Lab Sample ID: LCS 880-20521/2-A**
**Matrix: Solid**
**Analysis Batch: 20583**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 20521**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 986.7 | | mg/Kg | | 99 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 790.2 | | mg/Kg | | 79 | 70 - 130 |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

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

**Lab Sample ID: LCS 880-20521/2-A**
**Matrix: Solid**
**Analysis Batch: 20583**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 20521**

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

**Lab Sample ID: LCSD 880-20521/3-A**
**Matrix: Solid**
**Analysis Batch: 20583**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 20521**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 922.9 | | mg/Kg | | 92 | 70 - 130 | 7 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 778.9 | | mg/Kg | | 78 | 70 - 130 | 1 | 20 |

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 100 | | 70 - 130 |
| o-Terphenyl | 90 | | 70 - 130 |

**Lab Sample ID: 890-2016-A-1-E MS**
**Matrix: Solid**
**Analysis Batch: 20583**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 20521**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 1000 | 929.4 | | mg/Kg | | 90 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 1000 | 726.1 | | mg/Kg | | 73 | 70 - 130 |

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 88 | | 70 - 130 |
| o-Terphenyl | 84 | | 70 - 130 |

**Lab Sample ID: 890-2016-A-1-F MSD**
**Matrix: Solid**
**Analysis Batch: 20583**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 20521**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 998 | 922.2 | | mg/Kg | | 90 | 70 - 130 | 1 | 20 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 998 | 731.8 | | mg/Kg | | 73 | 70 - 130 | 1 | 20 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|---|---|---|---|
| 1-Chlorooctane | 92 | | 70 - 130 |
| o-Terphenyl | 84 | | 70 - 130 |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-20600/1-A**
**Matrix: Solid**
**Analysis Batch: 20602**

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

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 03/01/22 10:57 | 1 |

**Lab Sample ID: LCS 880-20600/2-A**
**Matrix: Solid**
**Analysis Batch: 20602**

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

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 242.0 | | mg/Kg | | 97 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-20600/3-A**
**Matrix: Solid**
**Analysis Batch: 20602**

**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 | 241.9 | | mg/Kg | | 97 | 90 - 110 | 0 | 20 |

**Lab Sample ID: 890-2028-4 MS**
**Matrix: Solid**
**Analysis Batch: 20602**

**Client Sample ID: SS02A**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 143 | | 252 | 395.5 | | mg/Kg | | 100 | 90 - 110 | | |

**Lab Sample ID: 890-2028-4 MSD**
**Matrix: Solid**
**Analysis Batch: 20602**

**Client Sample ID: SS02A**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 143 | | 252 | 396.0 | | mg/Kg | | 101 | 90 - 110 | 0 | 20 |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## GC VOA

### Prep Batch: 20522

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-2028-1 | SS01 | Total/NA | Solid | 5035 | |
| 890-2028-2 | SS02 | Total/NA | Solid | 5035 | |
| 890-2028-3 | SS01A | Total/NA | Solid | 5035 | |
| 890-2028-4 | SS02A | Total/NA | Solid | 5035 | |
| MB 880-20522/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-20522/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-20522/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-11807-A-1-E MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-11807-A-1-F MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 20556

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-2028-1 | SS01 | Total/NA | Solid | Total BTEX | |
| 890-2028-2 | SS02 | Total/NA | Solid | Total BTEX | |
| 890-2028-3 | SS01A | Total/NA | Solid | Total BTEX | |
| 890-2028-4 | SS02A | Total/NA | Solid | Total BTEX | |

### Analysis Batch: 20576

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-2028-1 | SS01 | Total/NA | Solid | 8021B | 20522 |
| 890-2028-2 | SS02 | Total/NA | Solid | 8021B | 20522 |
| 890-2028-3 | SS01A | Total/NA | Solid | 8021B | 20522 |
| 890-2028-4 | SS02A | Total/NA | Solid | 8021B | 20522 |
| MB 880-20522/5-A | Method Blank | Total/NA | Solid | 8021B | 20522 |
| LCS 880-20522/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 20522 |
| LCSD 880-20522/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 20522 |
| 880-11807-A-1-E MS | Matrix Spike | Total/NA | Solid | 8021B | 20522 |
| 880-11807-A-1-F MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 20522 |

## GC Semi VOA

### Prep Batch: 20521

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-2028-1 | SS01 | Total/NA | Solid | 8015NM Prep | |
| 890-2028-2 | SS02 | Total/NA | Solid | 8015NM Prep | |
| 890-2028-3 | SS01A | Total/NA | Solid | 8015NM Prep | |
| 890-2028-4 | SS02A | Total/NA | Solid | 8015NM Prep | |
| MB 880-20521/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-20521/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-20521/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-2016-A-1-E MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-2016-A-1-F MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

### Analysis Batch: 20583

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-2028-1 | SS01 | Total/NA | Solid | 8015B NM | 20521 |
| 890-2028-2 | SS02 | Total/NA | Solid | 8015B NM | 20521 |
| 890-2028-3 | SS01A | Total/NA | Solid | 8015B NM | 20521 |
| 890-2028-4 | SS02A | Total/NA | Solid | 8015B NM | 20521 |
| MB 880-20521/1-A | Method Blank | Total/NA | Solid | 8015B NM | 20521 |
| LCS 880-20521/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 20521 |

# QC Association Summary

Client: WSP USA Inc. Job ID: 890-2028-1
Project/Site: PC 17 TB SDG: 31403236.020.0129

## GC Semi VOA (Continued)

### Analysis Batch: 20583 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| LCSD 880-20521/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 20521 |
| 890-2016-A-1-E MS | Matrix Spike | Total/NA | Solid | 8015B NM | 20521 |
| 890-2016-A-1-F MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 20521 |

### Analysis Batch: 20634

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-2028-1 | SS01 | Total/NA | Solid | 8015 NM | |
| 890-2028-2 | SS02 | Total/NA | Solid | 8015 NM | |
| 890-2028-3 | SS01A | Total/NA | Solid | 8015 NM | |
| 890-2028-4 | SS02A | Total/NA | Solid | 8015 NM | |

## HPLC/IC

### Leach Batch: 20600

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-2028-1 | SS01 | Soluble | Solid | DI Leach | |
| 890-2028-2 | SS02 | Soluble | Solid | DI Leach | |
| 890-2028-3 | SS01A | Soluble | Solid | DI Leach | |
| 890-2028-4 | SS02A | Soluble | Solid | DI Leach | |
| MB 880-20600/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-20600/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-20600/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-2028-4 MS | SS02A | Soluble | Solid | DI Leach | |
| 890-2028-4 MSD | SS02A | Soluble | Solid | DI Leach | |

### Analysis Batch: 20602

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-2028-1 | SS01 | Soluble | Solid | 300.0 | 20600 |
| 890-2028-2 | SS02 | Soluble | Solid | 300.0 | 20600 |
| 890-2028-3 | SS01A | Soluble | Solid | 300.0 | 20600 |
| 890-2028-4 | SS02A | Soluble | Solid | 300.0 | 20600 |
| MB 880-20600/1-A | Method Blank | Soluble | Solid | 300.0 | 20600 |
| LCS 880-20600/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 20600 |
| LCSD 880-20600/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 20600 |
| 890-2028-4 MS | SS02A | Soluble | Solid | 300.0 | 20600 |
| 890-2028-4 MSD | SS02A | Soluble | Solid | 300.0 | 20600 |

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## Client Sample ID: SS01
**Date Collected: 02/22/22 10:45**
**Date Received: 02/28/22 09:23**

## Lab Sample ID: 890-2028-1
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 20522 | 03/01/22 10:15 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 20576 | 03/01/22 14:01 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | 20556 | 02/28/22 19:17 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | 20634 | 03/01/22 19:07 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 20521 | 03/01/22 13:00 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | 20583 | 03/01/22 13:31 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 20600 | 03/01/22 12:29 | SC | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | 20602 | 03/01/22 13:22 | SC | XEN MID |

## Client Sample ID: SS02
**Date Collected: 02/22/22 10:50**
**Date Received: 02/28/22 09:23**

## Lab Sample ID: 890-2028-2
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 20522 | 03/01/22 10:15 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 20576 | 03/01/22 14:21 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | 20556 | 02/28/22 19:17 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | 20634 | 03/01/22 19:07 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 20521 | 03/01/22 13:00 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | 20583 | 03/01/22 13:52 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 20600 | 03/01/22 12:29 | SC | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | 20602 | 03/01/22 13:31 | SC | XEN MID |

## Client Sample ID: SS01A
**Date Collected: 02/22/22 12:15**
**Date Received: 02/28/22 09:23**

## Lab Sample ID: 890-2028-3
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 20522 | 03/01/22 10:15 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 20576 | 03/01/22 14:42 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | 20556 | 02/28/22 19:17 | AJ | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | 20634 | 03/01/22 19:07 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 20521 | 03/01/22 13:00 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | 20583 | 03/01/22 14:13 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 20600 | 03/01/22 12:29 | SC | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | 20602 | 03/01/22 13:39 | SC | XEN MID |

## Client Sample ID: SS02A
**Date Collected: 02/22/22 12:25**
**Date Received: 02/28/22 09:23**

## Lab Sample ID: 890-2028-4
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5035 | | | 20522 | 03/01/22 10:15 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 20576 | 03/01/22 15:02 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | 20556 | 02/28/22 19:17 | AJ | XEN MID |

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## Client Sample ID: SS02A

**Date Collected: 02/22/22 12:25**
**Date Received: 02/28/22 09:23**

## Lab Sample ID: 890-2028-4

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8015 NM | | 1 | 20634 | 03/01/22 19:07 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 20521 | 03/01/22 13:00 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | 20583 | 03/01/22 14:34 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 20600 | 03/01/22 12:29 | SC | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | 20602 | 03/01/22 13:48 | SC | XEN MID |

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

## 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: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

| 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: PC 17 TB

Job ID: 890-2028-1
SDG: 31403236.020.0129

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-2028-1 | SS01 | Solid | 02/22/22 10:45 | 02/28/22 09:23 | 0.5 |
| 890-2028-2 | SS02 | Solid | 02/22/22 10:50 | 02/28/22 09:23 | 0.5 |
| 890-2028-3 | SS01A | Solid | 02/22/22 12:15 | 02/28/22 09:23 | 2 |
| 890-2028-4 | SS02A | Solid | 02/22/22 12:25 | 02/28/22 09:23 | 2 |

# Chain of Custody

XENCO LABORATORIES

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

Work Order No: _____

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3/1/2022

| | | | |
|---|---|---|---|
| Project Manager: | Tacoma Morrissey | Bill to: (if different) | Kyle Littrell |
| Company Name: | WSP USA Inc. | Company Name: | XTO Energy |
| Address: | 3300 North A Street | Address: | 3104 E Green Street |
| City, State ZIP: | Midland, TX 79705 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 432.236.3849 | Email: | Alexis.Castro@wsp.com; Tacoma.Morrissey@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: | PC 17 TB | Turn Around | |
| Project Number: | 31403236.020.0129 | Routine ☐ | |
| P.O. Number: | 12/12/2021 | Rush: 24hr | |
| Sampler's Name: | Alexis Castro | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | (Yes) No | Wet Ice: | (Yes) No | |
| Temperature (°C): | 1.8 / 1.4 | Thermometer ID | T-NM-007 | |
| Received Intact: | (Yes) No | | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes No (N/A) | Total Containers: | | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 8021) | Chloride (EPA 300.0) |
|---|---|---|---|---|---|---|---|---|
| SS01 | S | 02/22/2022 | 1045 | 0.5' | 1 | x | x | x |
| SS02 | S | 02/22/2022 | 1050 | 0.5' | 1 | x | x | x |
| SS01A | S | 02/22/2022 | 1215 | 2' | 1 | x | x | x |
| SS02A | S | 02/22/2022 | 1225 | 2' | 1 | x | x | x |

AL

890-2028 Chain of Custody

**Work Order Notes**

INC: NAPP2134945825
CC: 1081061001
API: 30-015-36635

TAT starts the day recevied by the lab, if received by 4:30pm

**Sample Comments**



**Total 200.7 / 6010 200.8 / 6020:** 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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 **1631 / 245.1 / 7470 / 7471** : Hg



| | Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | | | 2/28/22 | 9:23 | | |
| 3 | | | | 4 | | |
| 5 | | | | 6 | | |

Revised Date 051418 Rev. 2018.1

# Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-2028-1
SDG Number: 31403236.020.0129

**Login Number: 2028**
**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: 890-2028-1
SDG Number: 31403236.020.0129

**Login Number: 2028**
**List Number: 2**
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**
**List Creation: 03/01/22 11:15 AM**

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

**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 89693

## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>89693 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| jnobui | Closure Report Approved. Depth to groundwater determination must rely on well data within 0.5 miles from the site and <25 years old. OCD will issue approval as this site had data below most stringent criteria-600 mg/kg chloride. | 3/22/2022 |