

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	nAPP2201862045
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Melodie Sanjari	Contact Telephone 575-988-8753
Contact email <a href="mailto:msanjari@marathonoil.com">msanjari@marathonoil.com</a>	Incident # (assigned by OCD)
Contact mailing address 4111 S. Tidwell Rd., Carlsbad, NM 8220	

### Location of Release Source

Latitude 32.5664978

Longitude -103.7428894  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: QUEENIE 15 FEDERAL #001H	Site Type: Oil & Gas Facility
Date Release Discovered: 1/18/2022	API# (if applicable) 30-025-40230

Unit Letter	Section	Township	Range	County
M	14	20S	32E	Lea

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

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 30	Volume Recovered (bbls) 25
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

A sensor-field gauge failure resulted in a the produced water tanks to overflow into the earthen containment. The source was isolated, tanks pulled down and all standing fluids were immediately recovered.

Tanks @ ~171bbl	13-Jan
Avg. 64 BPWD - 2x 300 bbl. equalized tanks	
1x125 bbl. pull	14-Jan
30 bbl. released	18-Jan

State of New Mexico  
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Volume
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes – NOR was submitted with volume estimate 4/18/2022	

**Initial Response**

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Melodie Sanjari</u>	Title: <u>Environmental Professional</u>
Signature: <u>Melodie Sanjari</u>	Date: 1/20/2022
email: <u>msanjari@marathonoil.com</u>	Telephone: <u>575-988-8753</u>
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____



AGAVE Transportation Services, Inc.  
accounting@agavetransportation.com  
870-K.E. Redd Rd. # 443 El Paso, TX 79912

M 56722

BILL TO

MARATHON OIL CO.

DISPOSAL NUMBER	8100	DATE	1-18-22
COST CENTER		ORDERED BY	

DELIVERED FROM: QUELIE 15.				TO: (WGL) BIK EDDY SWD					
LOCATION LEASE: FEDERAL T-B				<input type="radio"/> RIG <input checked="" type="radio"/> BATTERY <input type="radio"/> COMPLETION <input type="radio"/> FLOW BACK					
TRUCK OR UNIT NO.: 7464		AMOUNT HAULED: 25		GAUGE: TOP: BOTTOM:					
TIMES				DESCRIPTION	BILLING	RATE		AMOUNT	
BATTERY	ARRIVE	9:30	OAM PM	WORKING ON (STARTED) LOCATION, (AT 9:00 PM) CLEANING OUT CONTAINMENT, Front SPILL. HAULED 25 BBL'S OF P/W to SWD.	2.0	Hrs.			
	DEPART	9:55	OAM PM						
DISPOSAL	ARRIVE	10:30	OAM PM						
	DEPART	10:00	OAM PM						

Joreen Luyca  
DRIVER PRINT NAME  
Joreen Luyca  
DRIVER SIGNATURE

\_\_\_\_\_  
COMPANY MAN PRINT NAME  
\_\_\_\_\_  
COMPANY MAN SIGNATURE

Thank You!

SUB TOTAL

TAX

TOTAL

Incident ID	nAPP2201862045
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## Site Assessment/Characterization

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

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

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

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

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

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



State of New Mexico  
Oil Conservation Division

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

Printed Name: Melodie Sanjari Title: Environmental Professional  
Signature: Melodie Sanjari Date: 3/25/2022  
email: msanjari@marathonoil.com Telephone: 575-988-8753

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	nAPP2201862045
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## Remediation Plan

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

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Melodie Sanjari Title: Environmental Professional  
Signature: Melodie Sanjari Date: 3/25/2022  
email: msanjari@marathonoil.com Telephone: 575-988-8753

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: Jennifer Nobui Date: 05/03/2022



WSP USA

508 West Stevens Street  
Carlsbad, NM 88220  
575.887.0101

March 23, 2022

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

**RE:   Deferral Request  
      Queenie 15 Federal #001H  
      Incident Number nAPP2201862045  
      Lea County, New Mexico**

To Whom It May Concern:

WSP USA Inc. (WSP), on behalf of Marathon Oil Permian, LLC. (Marathon), is pleased to present the following Deferral Request detailing site assessment and soil sampling activities at the Queenie 15 Federal #001H (Site) located in Unit M, Section 14, Township 20 South, Range 32 East, in Lea County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to address impacts to soil following a release of produced water at the Site. Based on field observations, delineation activities, and analytical results of soil samples, Marathon is submitting this Deferral Request, describing delineation activities that have occurred and requesting deferral of final remediation of Incident Number nAPP2201862045 until the equipment in the affected area is removed during major Site reconstruction operations, or when the well or facility is plugged or abandoned, whichever comes first.

## **RELEASE BACKGROUND**

On January 18, 2022, a sensor-field gauge failure resulted in the produced water tanks to overflow into the earthen containment. The overflow released approximately 30 barrels (bbls) of produced water into the earthen containment. Approximately 25 bbls of produced water were recovered via vacuum truck. Marathon reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Form C-141 on January 20, 2022 and was assigned Incident Number nAPP2201862045.

## **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) through a desktop search of potential sensitive receptors as well as referencing an NMOCD approved site characterization of the Site that was associated with Incident Number NDHR1921342505. The Deferral Request Report dated October 18, 2019, and characterization associated with Incident Number NDHR1921342505 was subsequently approved by NMOCD on



September 17, 2020. Based on the uploaded NMOCD record and groundwater information referenced in the Eddy Lea Energy Alliance (ELEA) submission of the Final Detailed Siting Report (<https://www.nrc.gov/docs/ML1024/ML102440738.pdf>), depth to protectable groundwater is greater than 100 feet bgs. The ELEA report states shallow groundwater is found at approximately 35 feet bgs; however, the shallow groundwater quality exceeded 10,000 parts per million (ppm) Total Dissolved Solids (TDS), therefore the shallow groundwater in the vicinity of the Site is not considered protectable. Protectable groundwater has been observed between 300 feet to 400 feet bgs. It should be noted that the same groundwater quality and depth to protectable groundwater evaluation was approved by NMOCD on August 10, 2021, for Incident Number nAPP2110325623

The closest continuously flowing or significant watercourse to the Site is an intermittent riverine, located approximately 3,707 feet east 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, and church. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low-potential karst area. Potential receptors identified during Site Characterization are displayed in Figure 1.

## **CLOSURE CRITERIA**

Based on the results of the Site Characterization and approved NMOCD groundwater determination of the Site referenced in the 2019 Deferral Request Report, 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 LINER INSPECTION**

On January 31, 2022, WSP personnel visited the Site to conduct site assessment activities and evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP reviewed and verified the Form C-141 incident description (release source and release location) with visual soil impacts and confirmed that the release impacted areas within the earthen containment, and a portion outside containment to the north. Based on the site assessment and visual observations, delineation activities appeared to be warranted to investigate potential soil impacts related to the produced water release. Photographic documentation of the release is provided in Attachment 1.



## INITIAL DELINEATION ACTIVITIES

On February 8, 2022, WSP personnel conducted horizontal and vertical delineation activities within and outside the earthen containment to confirm the presence or absence of impacted soils as a result of the overflow release. Utilizing a hand auger and gas-powered Shaw Tool, Ltd Portable Core Drill, WSP conducted four delineation soil samples within the earthen containment area (BH01-BH04). WSP conducted soil samples outside the earthen containment in the four cardinal directions (BH05-BH08), and one within the release extent that extended outside the earthen containment (BH09). Delineation activities were directed by field screening soil samples for volatile aromatic hydrocarbons using a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips.

A total of two soil samples were collected from each of the borehole/core hole locations: the sample with the highest observed field screening concentrations (approximately 1-foot bgs) and the greatest depth (ranging from 2 feet to 3 feet bgs). The delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler initials, 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-DRO, TPH-GRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. The delineation sample locations were mapped utilizing a handheld global positioning system (GPS) unit and are presented on Figure 2. Field screening results and observations for the boreholes were recorded on lithologic/soil sampling logs and are presented in Attachment 2.

## CONTINUED DELINEATION ACTIVITIES

On March 9, 2021, WSP personnel returned to the site to oversee additional delineation activities associated with BH03 to fully delineation chloride/TPH impacts vertically to below NMOCD closure criteria. Delineation activities were directed by field screening soil samples for volatile aromatic hydrocarbons and chloride. One soil sample was collected from BH03 location to a total depth of 3 feet bgs. The delineation sample locations were mapped utilizing a handheld GPS unit and is presented on Figure 2.

The delineation soil samples were collected, handled, and analyzed as previously described.

## LABORATORY ANALYTICAL RESULTS

Based on laboratory analytical results, the vertical extent of impacted soil is less than 3 feet bgs inside the containment and 1-foot bgs in the area outside the containment. Laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria in all terminus samples within the release extent and below the strictest Closure



District II  
Page 4

Criteria in lateral delineation samples. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are provided in Attachment 3.

**DEFERRAL REQUEST**

An estimated 260 cubic yards of impacted soil remain in place in the earthen containment based on a laboratory analytical data of borehole samples BH01 through BH04 at 3 feet bgs. All deferral areas are located on the well pad. The release is delineated laterally to the north by Borehole BH06, to the east by Borehole BH05, to the south by Borehole BH08, and to the west by Borehole BH07. The deferral request area is shown on Figure 2.

Marathon requests to complete remediation of residual soil impacts during any major future well pad construction/alteration or final plugging and abandonment, whichever occurs first. WSP and Marathon do not believe deferment will result in imminent risk to human health, the environment, or groundwater. Based on the additional data collected as described in this report, impacts have been fully delineated, and no soil removal can occur safely at this time. Marathon requests deferral of final remediation for Incident Number nAPP2201862045.

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

Sincerely,

WSP USA Inc.

A handwritten signature in black ink, appearing to read 'Travis Casey'.

Travis Casey  
Consultant, Environmental Scientist

A handwritten signature in black ink, appearing to read 'Daniel R. Moir'.

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

cc: Melodie Sanjari, Marathon



**WSP USA**

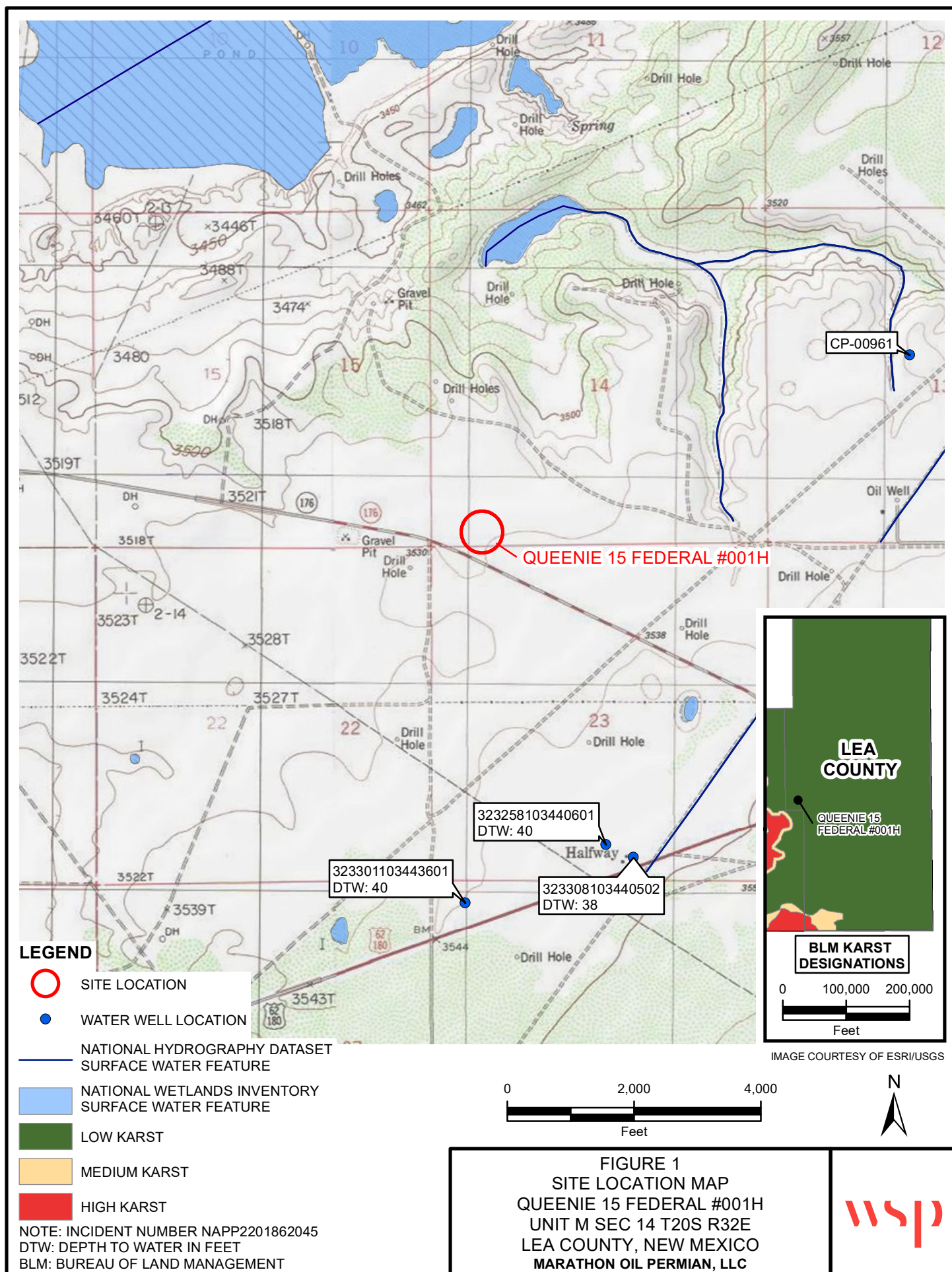
3300 North "A" Street  
Building 1, Unit 222  
Midland, Texas 79705  
432.704.5178

Attachments:

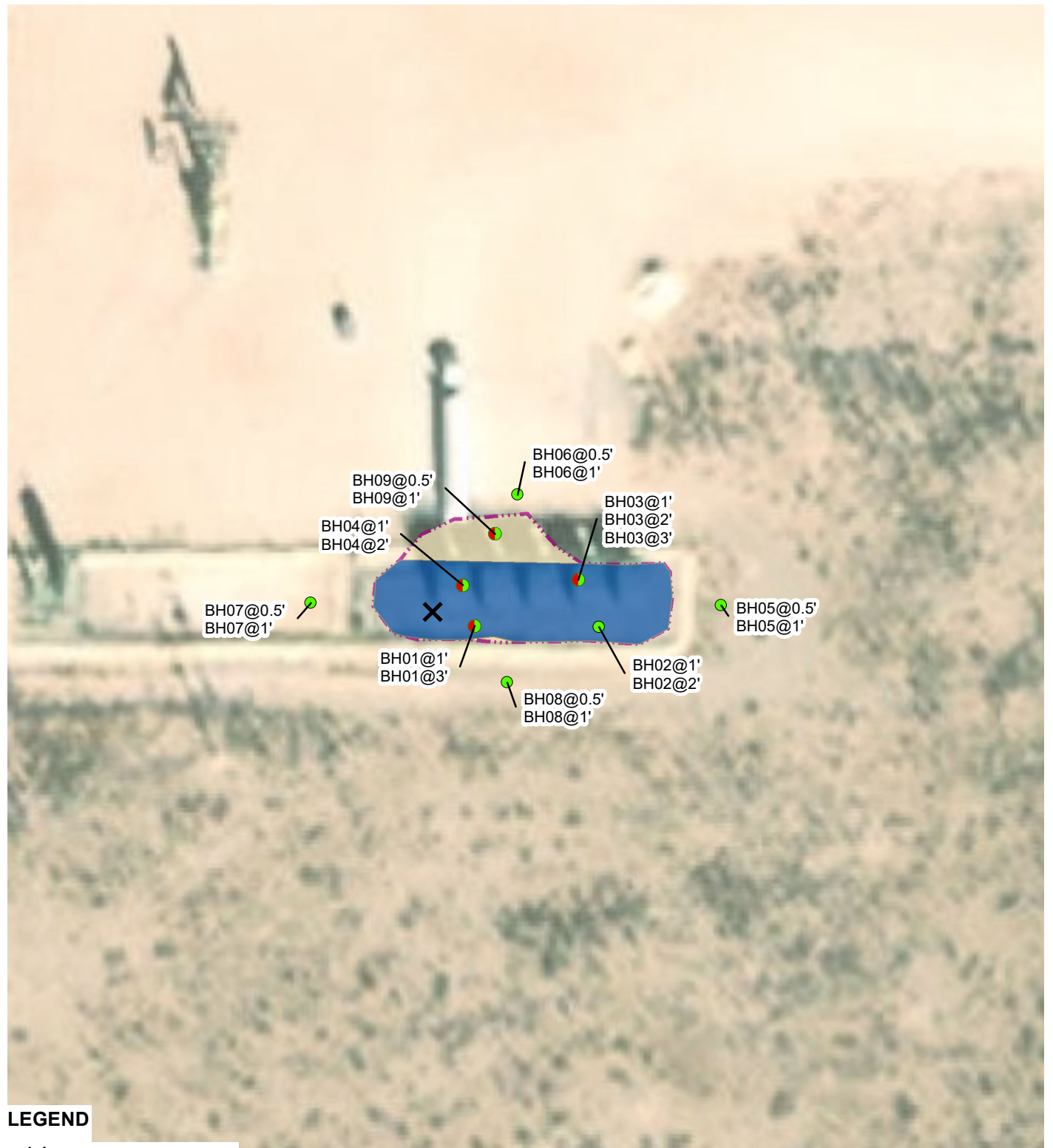
Figure 1 Site Location Map  
Figure 2 Delineation/Deferral Soil Sample  
Table 1 Locations Soil Analytical Results

Attachment 1 Photographic Log  
Attachment 2 Lithologic/Sampling Log  
Attachment 3 Laboratory Analytical Reports

FIGURES







**FIGURE 2**  
**DELINEATION AND DEFERRAL AREAS**  
 QUEENIE 15 FEDERAL #001H  
 UNIT M SEC 14 T20S R32E  
 LEA COUNTY, NEW MEXICO  
 MARATHON OIL PERMIAN, LLC





TABLES

Table 1

Soil Analytical Results  
Queenie 15 Federal #001H  
Incident Number nAPP2201862045  
Marathon Oil Permian, LLC  
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Samples										
BH01	2/8/2022	1	0.233	11.1	2,430	966	<50.0	3,396	3,400	6,820
BH01	2/8/2022	3	<0.0401	3.35	1,410	196	<49.8	1,606	1,610	2,320
BH02	2/8/2022	1	<0.0399	<0.0798	280	<49.9	<49.9	280	280	9,160
BH02	2/8/2022	2	<0.0402	<0.0805	233	<50.0	<50.0	233	233	8,270
BH03	2/8/2022	1	0.198	11.2	5,870	592	<250	6,462	6,460	5,000
BH03	2/8/2022	2	0.779	7.14	1,140	<49.9	<49.9	1,140	1140	12,300
BH03	3/9/2022	3	<0.00199	<0.00398	214	<49.9	<49.9	214	214	5,150
BH04	2/8/2022	1	<0.0400	<0.0800	1190	<50.0	<50.0	1,190	1,190	4,020
BH04	2/8/2022	2	0.222	1.44	162	<50.0	<50.0	162	162	3,840
BH05	2/8/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	15.5
BH05	02/08/2022	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	18.9
BH06	02/08/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	20.8
BH06	02/08/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	26.1

Table 1

Soil Analytical Results  
Queenie 15 Federal #001H  
Incident Number nAPP2201862045  
Marathon Oil Permian, LLC  
Lea 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
BH07	2/9/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	129
BH07	2/9/2022	1	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	176
BH08	2/8/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	112
BH08	2/8/2022	1	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	66.7
BH09	2/8/2022	0.5	0.215	1.42	<49.9	<49.9	<49.9	<49.9	<49.9	<b>3,590</b>
BH09	2/8/2022	1	<0.0399	<0.0798	<49.9	<49.9	<49.9	<49.9	<49.9	592

**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

&lt; - 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: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG		
Marathon Oil Permian, LLC.	Queenie 15 Federal #001H Lea County, New Mexico	31403152.016

Photo No.	Date	
1	February 8, 2022	
BH01		

Photo No.	Date	
2	February 8, 2022	
BH02		



**PHOTOGRAPHIC LOG**

<b>Marathon Oil Permian, LLC.</b>	<b>Queenie 15 Federal #001H Lea County, New Mexico</b>	<b>31403152.016</b>
---------------------------------------	------------------------------------------------------------	---------------------

<b>Photo No.</b>	<b>Date</b>	
3	February 8, 2022	
BH03		 A photograph showing a small, dark, circular hole in the ground. The ground is composed of dry, brownish soil and small rocks. A concrete block is visible in the upper left corner, and a person's boot is partially visible in the lower left corner.

<b>Photo No.</b>	<b>Date</b>	
4	February 8, 2022	
BH04		 A photograph showing a hole in the ground, similar to the one in the previous photo. A long, thin metal rod is placed vertically next to the hole for scale. The ground is dry and rocky.



PHOTOGRAPHIC LOG		
Marathon Oil Permian, LLC.	Queenie 15 Federal #001H Lea County, New Mexico	31403152.016

Photo No.	Date	
5	February 8, 2022	
BH05		

Photo No.	Date	
6	February 8, 2022	
BH06		






PHOTOGRAPHIC LOG		
Marathon Oil Permian, LLC.	Queenie 15 Federal #001H Lea County, New Mexico	31403152.016

Photo No.	Date	
7	February 8, 2022	
BH07		

Photo No.	Date	
8	February 8, 2022	
BH08		



PHOTOGRAPHIC LOG		
Marathon Oil Permian, LLC.	Queenie 15 Federal #001H Lea County, New Mexico	31403152.016

Photo No.	Date	
8	February 8, 2022	
BH09		

ATTACHMENT 2: LITHOLOGIC/SOIL SAMPLING LOGS





**WSP USA Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

BH or PH Name:

BH01

Date:

02-08-2022

Site Name: Quenich 15 Fed #001H

RP or Incident Number:

LTE Job Number:

# LITHOLOGIC / SOIL SAMPLING LOG

Logged By: TC

Method: Hand Auger

Lat/Long:

Field Screening:

Hole Diameter:

3"

Total Depth:

2'

Chloride, PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
M	5.0 <sup>14</sup> 5,868	783.6	Y	BH01	1'		Gp/KH	moist/poorly graded gravel with Sand and Caliche/Staining/Strong odor/Color Brown with yellow - Stick in sample jar
M	4.6 <sup>14</sup> 5,028.6	754.3	Y	BH01A	2'		Gp/KH	moist poorly graded gravel with Caliche and Sand Stains/mod odor color Dark Brown -



**WSP USA Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

BH or PH Name:

BH02

Date:

02-08-2022

Site Name: Queenie 15 Feb 2001H

RP or Incident Number:

LTE Job Number:

# LITHOLOGIC / SOIL SAMPLING LOG

Logged By: TC

Method: Hand Auger

Lat/Long:

Field Screening:

Hole Diameter:

3"

Total Depth:

2'

Chloride, PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
m	5.6 <del>7.38</del>	6.9	y	BH02	1'		GP/CL	moist/poorly graded gravel with caliche and sand/staining with strong to mod odor / color is Dark Brown sampled stick on top in sand
m	4.8 <del>5.43</del>	5.2	y	BH02A	2'		GP/CL	moist/poorly graded gravel with caliche and sand staining / mod odor / color Dark almost Black Brown



**WSP USA Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

BH or PH Name:

BH03

Date:

2-08-2022

Site Name: Queenie 15" Fuel # 00114

RP or Incident Number:

LTE Job Number:

# LITHOLOGIC / SOIL SAMPLING LOG

Logged By: TL

Method: Hand Auger

Lat/Long:

Field Screening:

Hole Diameter:

3"

Total Depth:

2'

Chloride, PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
m	4.0 3.976	511.7	Y	BH03	1'		GPKH	moist/poorly graded gravel with calciche and sand/staining with mod odor / Dark Brown color
m	6.0 8.624	206.3	Y	BH03A	2'		GPKH	moist/poorly graded gravel with calciche and sand / staining mod odor / color Dark almost Black brown.



**WSP USA Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

BH or PH Name:

BH04

Date:

2-08-2202

Site Name: Queenie 15 Fed #001 H

RP or Incident Number:

LTE Job Number:

### LITHOLOGIC / SOIL SAMPLING LOG

Logged By: TL

Method: Hand Auger

Lat/Long:

Field Screening:

Hole Diameter:

3"

Total Depth:

2'

Chloride, PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
M	3.6 3382.4	415.7	Y	BH04	1'		Gdlt	moist/poorly graded gravel with Caliche and Sand / staining / mod odor / Dark Brown Sample Jar had stick
M	2.4 1971.2	116.3	Y	BH04A	2'		Gdlt	moist/poorly graded gravel with Caliche and Sand / staining / low mod odor / Dark Brown color



**WSP USA Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

BH or PH Name:

BH05

Date:

02-28-2022

Site Name: Queenie 15 Fed #001H

RP or Incident Number:

LTE Job Number:

### LITHOLOGIC / SOIL SAMPLING LOG

Logged By:

TC

Method:

Hard Auger

Lat/Long:

Field Screening:

Chloride, PID

Hole Diameter:

3"

Total Depth:

1'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	2.4	2.1	~	BH05	0.5'		GPK-m	Dry/poorly graded gravel with sand and silt/no odor/no staining/light brown color
D	1.2 2168	1.3	~	BH05A	1'		GPK-m	Dry/poorly graded gravel with sand and silt/no odor/no staining/light brown color



**WSP USA Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

BH or PH Name:

BH06

Date:

2-08-2022

Site Name: Queenie IS Fed # 00117

RP or Incident Number:

LTE Job Number:

# LITHOLOGIC / SOIL SAMPLING LOG

Logged By:

Method: Hand Auger

Lat/Long:

Field Screening:

Hole Diameter:

3"

Total Depth:

1'

Chloride, PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	3.0 / 520	1.0	N	BH06	0.5'		Gp/Gr CH	dry/poorly graded gravel with Caliche, sand, silt / odor / no staining / light tan color
D	1.6 / 190.5	1.5	N	BH06A	1'		Gp/Gr CH	dry/poorly graded gravel with Caliche, sand, silt / slight odor / no staining / Tan, light brown color





**WSP USA Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

BH or PH Name:

BH07

Date:

2-08-2022

Site Name:

RP or Incident Number:

LTE Job Number:

# LITHOLOGIC / SOIL SAMPLING LOG

Logged By:

Method:

Lat/Long:

Field Screening:

Hole Diameter:

Total Depth:

Chloride, PID

3"

2'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D 4.8 1/64.8	0.9	N	BH07	1'			GpLGM	Dry/loosely Graded gravel with sand and silt / NO staining / NO odor / light Brown
D 3.0 520.8	0.3	N	BH07A	2'			GpLGM	Dry/loosely Graded gravel with sand and silt / Start of caliche / NO staining / NO odor / Tan-Brown





**WSP USA Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

BH or PH Name:

BH08

Date:

2-08-2022

Site Name:

Quecua 15 Feet #0014

RP or Incident Number:

LTE Job Number:

### LITHOLOGIC / SOIL SAMPLING LOG

Logged By:

TC

Method:

Hand Auger

Lat/Long:

Field Screening:

Hole Diameter:

3"

Total Depth:

1'

Chloride, PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	2.6 2148	4.6	N	BH08	0.5		Gp/Gm CH	Dry/poorly graded gravel with calciche, sands and silt / NO staining / odor / Brownish color
D	1.2 2168	3.2	N	BH08A	1'		Gp/Gm CH	Dry/poorly graded gravel with calciche, sand, silt / NO staining / slight odor / Brownish color



**WSP USA Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

BH or PH Name:

BH09

Date:

2-08-2022

Site Name: Queenie 15' Foot #0014

RP or Incident Number:

LTE Job Number:

### LITHOLOGIC / SOIL SAMPLING LOG

Logged By: TC

Method: Hand Auger

Lat/Long:

Field Screening:

Hole Diameter:

3"

Total Depth:

1'

Chloride, PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	7.4 <del>3834</del>	1.0	Y	BH09	0.5'		Gokm	Dry/poorly sorted gravel with calciche and sand, silt / slight color / staining Brownish color
D	40 <del>175</del>	0.7	Y		1'		SAA	

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1924-1

Laboratory Sample Delivery Group: 31403152.016

Client Project/Site: Queenie 15 Federal #001H

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:  
2/21/2022 7:03:04 PM

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

#### LINKS

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

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

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Laboratory Job ID: 890-1924-1  
SDG: 31403152.016

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

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

## Glossary

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

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

**Job ID: 890-1924-1****Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-1924-1****Receipt**

The samples were received on 2/9/2022 8:38 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**

Method 8021B: The following samples were diluted due to the nature of the sample matrix: BH01 (890-1924-1), BH01A (890-1924-2), BH02 (890-1924-3), BH02A (890-1924-4), BH03 (890-1924-5), BH03A (890-1924-6), BH04 (890-1924-7), BH04A (890-1924-8), BH09 (890-1924-9) and BH09A (890-1924-10) at 20.0, 20.0, 20.0, 20.0, 20.0, 20.0, 20.0, 20.0, 20.0 and 20.0. Elevated reporting limits (RLs) are provided.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-18968 and analytical batch 880-19027 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

**GC Semi VOA**

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: BH02A (890-1924-4), (MB 880-19049/1-A), (890-1924-A-9-C MS) and (890-1924-A-9-D MSD). Evidence of matrix interferences is not obvious.

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 880-19415 and analytical batch 880-19574 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-19422 and analytical batch 880-19575 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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



## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH01

Lab Sample ID: 890-1924-1

Date Collected: 02/08/22 08:35

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.233		0.0396	mg/Kg		02/10/22 08:33	02/10/22 18:37	20
Toluene	0.309		0.0396	mg/Kg		02/10/22 08:33	02/10/22 18:37	20
Ethylbenzene	2.58		0.0396	mg/Kg		02/10/22 08:33	02/10/22 18:37	20
m-Xylene & p-Xylene	6.06		0.0792	mg/Kg		02/10/22 08:33	02/10/22 18:37	20
o-Xylene	1.90		0.0396	mg/Kg		02/10/22 08:33	02/10/22 18:37	20
Xylenes, Total	7.96		0.0792	mg/Kg		02/10/22 08:33	02/10/22 18:37	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	334	S1+	70 - 130	02/10/22 08:33	02/10/22 18:37	20
1,4-Difluorobenzene (Surr)	122		70 - 130	02/10/22 08:33	02/10/22 18:37	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	11.1		0.0792	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	3400		50.0	mg/Kg			02/17/22 15:47	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	966		50.0	mg/Kg		02/10/22 13:35	02/12/22 00:59	1
Diesel Range Organics (Over C10-C28)	2430		50.0	mg/Kg		02/10/22 13:35	02/12/22 00:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 00:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	02/10/22 13:35	02/12/22 00:59	1
o-Terphenyl	83		70 - 130	02/10/22 13:35	02/12/22 00:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6820		49.9	mg/Kg			02/16/22 12:16	10

Client Sample ID: BH01A

Lab Sample ID: 890-1924-2

Date Collected: 02/08/22 14:00

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0401	U	0.0401	mg/Kg		02/10/22 08:33	02/10/22 19:05	20
Toluene	1.04		0.0401	mg/Kg		02/10/22 08:33	02/10/22 19:05	20
Ethylbenzene	0.825		0.0401	mg/Kg		02/10/22 08:33	02/10/22 19:05	20
m-Xylene & p-Xylene	0.744		0.0802	mg/Kg		02/10/22 08:33	02/10/22 19:05	20
o-Xylene	0.741		0.0401	mg/Kg		02/10/22 08:33	02/10/22 19:05	20
Xylenes, Total	1.49		0.0802	mg/Kg		02/10/22 08:33	02/10/22 19:05	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	02/10/22 08:33	02/10/22 19:05	20

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## Client Sample ID: BH01A

## Lab Sample ID: 890-1924-2

Date Collected: 02/08/22 14:00

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 3

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	93		70 - 130	02/10/22 08:33	02/10/22 19:05	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	3.35		0.0802	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	1610		49.8	mg/Kg			02/17/22 15:47	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	196		49.8	mg/Kg		02/10/22 13:35	02/12/22 01:20	1
Diesel Range Organics (Over C10-C28)	1410		49.8	mg/Kg		02/10/22 13:35	02/12/22 01:20	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		02/10/22 13:35	02/12/22 01:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130			02/10/22 13:35	02/12/22 01:20	1
o-Terphenyl	78		70 - 130			02/10/22 13:35	02/12/22 01:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2320		24.9	mg/Kg			02/16/22 12:25	5

## Client Sample ID: BH02

## Lab Sample ID: 890-1924-3

Date Collected: 02/08/22 09:40

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0399	U	0.0399	mg/Kg		02/10/22 08:33	02/10/22 19:32	20
Toluene	<0.0399	U	0.0399	mg/Kg		02/10/22 08:33	02/10/22 19:32	20
Ethylbenzene	<0.0399	U	0.0399	mg/Kg		02/10/22 08:33	02/10/22 19:32	20
m-Xylene & p-Xylene	<0.0798	U	0.0798	mg/Kg		02/10/22 08:33	02/10/22 19:32	20
o-Xylene	<0.0399	U	0.0399	mg/Kg		02/10/22 08:33	02/10/22 19:32	20
Xylenes, Total	<0.0798	U	0.0798	mg/Kg		02/10/22 08:33	02/10/22 19:32	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	02/10/22 08:33	02/10/22 19:32	20
1,4-Difluorobenzene (Surr)	118		70 - 130	02/10/22 08:33	02/10/22 19:32	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0798	U	0.0798	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	280		49.9	mg/Kg			02/17/22 15:47	1

Eurofins Carlsbad

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## Client Sample ID: BH02

## Lab Sample ID: 890-1924-3

Date Collected: 02/08/22 09:40

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 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	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 01:41	1
<b>Diesel Range Organics (Over C10-C28)</b>	<b>280</b>		49.9	mg/Kg		02/10/22 13:35	02/12/22 01:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 01:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	78		70 - 130			02/10/22 13:35	02/12/22 01:41	1
o-Terphenyl	78		70 - 130			02/10/22 13:35	02/12/22 01:41	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9160		99.4	mg/Kg			02/16/22 12:52	20

## Client Sample ID: BH02A

## Lab Sample ID: 890-1924-4

Date Collected: 02/08/22 09:46

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0402	U	0.0402	mg/Kg		02/10/22 08:33	02/10/22 19:59	20
Toluene	<0.0402	U	0.0402	mg/Kg		02/10/22 08:33	02/10/22 19:59	20
Ethylbenzene	<0.0402	U	0.0402	mg/Kg		02/10/22 08:33	02/10/22 19:59	20
m-Xylene & p-Xylene	<0.0805	U	0.0805	mg/Kg		02/10/22 08:33	02/10/22 19:59	20
o-Xylene	<0.0402	U	0.0402	mg/Kg		02/10/22 08:33	02/10/22 19:59	20
Xylenes, Total	<0.0805	U	0.0805	mg/Kg		02/10/22 08:33	02/10/22 19:59	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			02/10/22 08:33	02/10/22 19:59	20
1,4-Difluorobenzene (Surr)	108		70 - 130			02/10/22 08:33	02/10/22 19:59	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0805	U	0.0805	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total TPH</b>	<b>233</b>		50.0	mg/Kg			02/17/22 15:47	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		02/10/22 13:35	02/12/22 02:03	1
<b>Diesel Range Organics (Over C10-C28)</b>	<b>233</b>		50.0	mg/Kg		02/10/22 13:35	02/12/22 02:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 02:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	52	S1-	70 - 130			02/10/22 13:35	02/12/22 02:03	1
o-Terphenyl	53	S1-	70 - 130			02/10/22 13:35	02/12/22 02:03	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## Client Sample ID: BH02A

Lab Sample ID: 890-1924-4

Date Collected: 02/08/22 09:46

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8270		99.8	mg/Kg			02/16/22 13:01	20

## Client Sample ID: BH03

Lab Sample ID: 890-1924-5

Date Collected: 02/08/22 09:54

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.198		0.0398	mg/Kg		02/10/22 08:33	02/10/22 20:27	20
Toluene	3.21		0.0398	mg/Kg		02/10/22 08:33	02/10/22 20:27	20
Ethylbenzene	3.51		0.0398	mg/Kg		02/10/22 08:33	02/10/22 20:27	20
m-Xylene & p-Xylene	2.03		0.0797	mg/Kg		02/10/22 08:33	02/10/22 20:27	20
o-Xylene	2.27		0.0398	mg/Kg		02/10/22 08:33	02/10/22 20:27	20
Xylenes, Total	4.30		0.0797	mg/Kg		02/10/22 08:33	02/10/22 20:27	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	278	S1+	70 - 130			02/10/22 08:33	02/10/22 20:27	20
1,4-Difluorobenzene (Surr)	80		70 - 130			02/10/22 08:33	02/10/22 20:27	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	11.2		0.0797	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	6460		250	mg/Kg			02/17/22 15:47	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	592		250	mg/Kg		02/10/22 13:35	02/12/22 02:26	5
Diesel Range Organics (Over C10-C28)	5870		250	mg/Kg		02/10/22 13:35	02/12/22 02:26	5
OII Range Organics (Over C28-C36)	<250	U	250	mg/Kg		02/10/22 13:35	02/12/22 02:26	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130			02/10/22 13:35	02/12/22 02:26	5
o-Terphenyl	83		70 - 130			02/10/22 13:35	02/12/22 02:26	5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5000		50.0	mg/Kg			02/16/22 13:09	10

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH03A

Lab Sample ID: 890-1924-6

Date Collected: 02/08/22 10:05

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.779		0.0396	mg/Kg		02/10/22 08:33	02/10/22 20:54	20
Toluene	1.26		0.0396	mg/Kg		02/10/22 08:33	02/10/22 20:54	20
Ethylbenzene	2.50		0.0396	mg/Kg		02/10/22 08:33	02/10/22 20:54	20
m-Xylene & p-Xylene	0.742		0.0792	mg/Kg		02/10/22 08:33	02/10/22 20:54	20
o-Xylene	1.86		0.0396	mg/Kg		02/10/22 08:33	02/10/22 20:54	20
Xylenes, Total	2.60		0.0792	mg/Kg		02/10/22 08:33	02/10/22 20:54	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	152	S1+	70 - 130	02/10/22 08:33	02/10/22 20:54	20
1,4-Difluorobenzene (Surr)	130		70 - 130	02/10/22 08:33	02/10/22 20:54	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	7.14		0.0792	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	1140		49.9	mg/Kg			02/17/22 15:47	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	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 02:48	1
Diesel Range Organics (Over C10-C28)	1140		49.9	mg/Kg		02/10/22 13:35	02/12/22 02:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 02:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	77		70 - 130			02/10/22 13:35	02/12/22 02:48	1
o-Terphenyl	74		70 - 130			02/10/22 13:35	02/12/22 02:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12300		100	mg/Kg			02/16/22 13:18	20

Client Sample ID: BH04

Lab Sample ID: 890-1924-7

Date Collected: 02/08/22 10:18

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0400	U	0.0400	mg/Kg		02/10/22 08:33	02/10/22 21:21	20
Toluene	<0.0400	U	0.0400	mg/Kg		02/10/22 08:33	02/10/22 21:21	20
Ethylbenzene	<0.0400	U	0.0400	mg/Kg		02/10/22 08:33	02/10/22 21:21	20
m-Xylene & p-Xylene	<0.0800	U	0.0800	mg/Kg		02/10/22 08:33	02/10/22 21:21	20
o-Xylene	<0.0400	U	0.0400	mg/Kg		02/10/22 08:33	02/10/22 21:21	20
Xylenes, Total	<0.0800	U	0.0800	mg/Kg		02/10/22 08:33	02/10/22 21:21	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	02/10/22 08:33	02/10/22 21:21	20

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH04

Lab Sample ID: 890-1924-7

Date Collected: 02/08/22 10:18

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	119		70 - 130	02/10/22 08:33	02/10/22 21:21	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0800	U	0.0800	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	1190		50.0	mg/Kg			02/17/22 15:47	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		02/10/22 13:35	02/12/22 03:10	1
Diesel Range Organics (Over C10-C28)	1190		50.0	mg/Kg		02/10/22 13:35	02/12/22 03:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 03:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130			02/10/22 13:35	02/12/22 03:10	1
o-Terphenyl	76		70 - 130			02/10/22 13:35	02/12/22 03:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4020		49.5	mg/Kg			02/16/22 13:27	10

Client Sample ID: BH04A

Lab Sample ID: 890-1924-8

Date Collected: 02/08/22 10:26

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.222		0.0403	mg/Kg		02/10/22 08:33	02/10/22 22:42	20
Toluene	0.287		0.0403	mg/Kg		02/10/22 08:33	02/10/22 22:42	20
Ethylbenzene	0.331		0.0403	mg/Kg		02/10/22 08:33	02/10/22 22:42	20
m-Xylene & p-Xylene	0.352		0.0806	mg/Kg		02/10/22 08:33	02/10/22 22:42	20
o-Xylene	0.251		0.0403	mg/Kg		02/10/22 08:33	02/10/22 22:42	20
Xylenes, Total	0.603		0.0806	mg/Kg		02/10/22 08:33	02/10/22 22:42	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	02/10/22 08:33	02/10/22 22:42	20
1,4-Difluorobenzene (Surr)	83		70 - 130	02/10/22 08:33	02/10/22 22:42	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	1.44		0.0806	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	162		50.0	mg/Kg			02/17/22 15:56	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## Client Sample ID: BH04A

Lab Sample ID: 890-1924-8

Date Collected: 02/08/22 10:26

Matrix: Solid

Date Received: 02/09/22 08:38

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		02/10/22 13:35	02/12/22 03:31	1
Diesel Range Organics (Over C10-C28)	162		50.0	mg/Kg		02/10/22 13:35	02/12/22 03:31	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 03:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130			02/10/22 13:35	02/12/22 03:31	1
o-Terphenyl	82		70 - 130			02/10/22 13:35	02/12/22 03:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3840		49.7	mg/Kg			02/16/22 13:36	10

## Client Sample ID: BH09

Lab Sample ID: 890-1924-9

Date Collected: 02/08/22 14:20

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 0.3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.215		0.0398	mg/Kg		02/10/22 08:33	02/10/22 23:10	20
Toluene	0.218		0.0398	mg/Kg		02/10/22 08:33	02/10/22 23:10	20
Ethylbenzene	0.133		0.0398	mg/Kg		02/10/22 08:33	02/10/22 23:10	20
m-Xylene & p-Xylene	0.474		0.0795	mg/Kg		02/10/22 08:33	02/10/22 23:10	20
o-Xylene	0.376		0.0398	mg/Kg		02/10/22 08:33	02/10/22 23:10	20
Xylenes, Total	0.850		0.0795	mg/Kg		02/10/22 08:33	02/10/22 23:10	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	137	S1+	70 - 130			02/10/22 08:33	02/10/22 23:10	20
1,4-Difluorobenzene (Surr)	96		70 - 130			02/10/22 08:33	02/10/22 23:10	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	1.42		0.0795	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/17/22 15:56	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	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/11/22 23:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/11/22 23:53	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/11/22 23:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130			02/10/22 13:35	02/11/22 23:53	1
o-Terphenyl	84		70 - 130			02/10/22 13:35	02/11/22 23:53	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## Client Sample ID: BH09

## Lab Sample ID: 890-1924-9

Date Collected: 02/08/22 14:20

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 0.3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3590		50.2	mg/Kg			02/16/22 13:45	10

## Client Sample ID: BH09A

## Lab Sample ID: 890-1924-10

Date Collected: 02/08/22 14:28

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0399	U	0.0399	mg/Kg		02/10/22 08:33	02/10/22 23:37	20
Toluene	<0.0399	U	0.0399	mg/Kg		02/10/22 08:33	02/10/22 23:37	20
Ethylbenzene	<0.0399	U	0.0399	mg/Kg		02/10/22 08:33	02/10/22 23:37	20
m-Xylene & p-Xylene	<0.0798	U	0.0798	mg/Kg		02/10/22 08:33	02/10/22 23:37	20
o-Xylene	<0.0399	U	0.0399	mg/Kg		02/10/22 08:33	02/10/22 23:37	20
Xylenes, Total	<0.0798	U	0.0798	mg/Kg		02/10/22 08:33	02/10/22 23:37	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130			02/10/22 08:33	02/10/22 23:37	20
1,4-Difluorobenzene (Surr)	132	S1+	70 - 130			02/10/22 08:33	02/10/22 23:37	20

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0798	U	0.0798	mg/Kg			02/14/22 08:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/17/22 15:56	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	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 03:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 03:52	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 03:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130			02/10/22 13:35	02/12/22 03:52	1
o-Terphenyl	71		70 - 130			02/10/22 13:35	02/12/22 03:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	592	F1	5.00	mg/Kg			02/19/22 08:58	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH05

Lab Sample ID: 890-1924-11

Date Collected: 02/08/22 11:50

Matrix: Solid

Date Received: 02/09/22 08:38

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		02/11/22 11:13	02/12/22 01:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 01:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 01:19	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/11/22 11:13	02/12/22 01:19	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 01:19	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/11/22 11:13	02/12/22 01:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	02/11/22 11:13	02/12/22 01:19	1
1,4-Difluorobenzene (Surr)	81		70 - 130	02/11/22 11:13	02/12/22 01:19	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			02/14/22 10:01	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			02/17/22 15:56	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		02/10/22 13:35	02/12/22 04:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 04:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 04:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	73		70 - 130	02/10/22 13:35	02/12/22 04:35	1
o-Terphenyl	72		70 - 130	02/10/22 13:35	02/12/22 04:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.5		5.05	mg/Kg			02/19/22 09:25	1

Client Sample ID: BH05A

Lab Sample ID: 890-1924-12

Date Collected: 02/08/22 11:55

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 00:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 00:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 00:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/11/22 11:13	02/12/22 00:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 00:38	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/11/22 11:13	02/12/22 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	02/11/22 11:13	02/12/22 00:38	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH05A

Lab Sample ID: 890-1924-12

Date Collected: 02/08/22 11:55

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	104		70 - 130	02/11/22 11:13	02/12/22 00:38	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			02/14/22 09:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/17/22 15:56	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	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 04:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 04:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 04:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130			02/10/22 13:35	02/12/22 04:57	1
o-Terphenyl	75		70 - 130			02/10/22 13:35	02/12/22 04:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.9		4.98	mg/Kg			02/19/22 09:34	1

Client Sample ID: BH06

Lab Sample ID: 890-1924-13

Date Collected: 02/08/22 11:37

Matrix: Solid

Date Received: 02/09/22 08:38

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		02/11/22 11:13	02/12/22 00:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 00:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 00:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/11/22 11:13	02/12/22 00:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 00:59	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/11/22 11:13	02/12/22 00:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	02/11/22 11:13	02/12/22 00:59	1
1,4-Difluorobenzene (Surr)	87		70 - 130	02/11/22 11:13	02/12/22 00:59	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			02/14/22 09:43	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			02/17/22 15:56	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## Client Sample ID: BH06

Lab Sample ID: 890-1924-13

Date Collected: 02/08/22 11:37

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 0.5

## 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		02/10/22 13:35	02/12/22 05:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 05:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 05:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	73		70 - 130			02/10/22 13:35	02/12/22 05:18	1
o-Terphenyl	74		70 - 130			02/10/22 13:35	02/12/22 05:18	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.8		5.00	mg/Kg			02/19/22 09:42	1

## Client Sample ID: BH06A

Lab Sample ID: 890-1924-14

Date Collected: 02/08/22 11:40

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/11/22 11:13	02/12/22 01:40	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/11/22 11:13	02/12/22 01:40	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/11/22 11:13	02/12/22 01:40	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/11/22 11:13	02/12/22 01:40	1
o-Xylene	0.00205		0.00199	mg/Kg		02/11/22 11:13	02/12/22 01:40	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/11/22 11:13	02/12/22 01:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130			02/11/22 11:13	02/12/22 01:40	1
1,4-Difluorobenzene (Surr)	94		70 - 130			02/11/22 11:13	02/12/22 01:40	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/14/22 09:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/17/22 15:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 05:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 05:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 05:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130			02/10/22 13:35	02/12/22 05:41	1
o-Terphenyl	75		70 - 130			02/10/22 13:35	02/12/22 05:41	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## Client Sample ID: BH06A

Lab Sample ID: 890-1924-14

Date Collected: 02/08/22 11:40

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.1		4.95	mg/Kg			02/19/22 09:51	1

## Client Sample ID: BH08

Lab Sample ID: 890-1924-15

Date Collected: 02/08/22 10:29

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/11/22 11:13	02/12/22 03:02	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/11/22 11:13	02/12/22 03:02	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/11/22 11:13	02/12/22 03:02	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/11/22 11:13	02/12/22 03:02	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/11/22 11:13	02/12/22 03:02	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/11/22 11:13	02/12/22 03:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130			02/11/22 11:13	02/12/22 03:02	1
1,4-Difluorobenzene (Surr)	104		70 - 130			02/11/22 11:13	02/12/22 03:02	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/14/22 09:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/17/22 15:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 06:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 06:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/12/22 06:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130			02/10/22 13:35	02/12/22 06:02	1
o-Terphenyl	80		70 - 130			02/10/22 13:35	02/12/22 06:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	112		5.01	mg/Kg			02/19/22 10:18	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH08A

Lab Sample ID: 890-1924-16

Date Collected: 02/08/22 10:30

Matrix: Solid

Date Received: 02/09/22 08:38

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 03:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 03:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 03:23	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/11/22 11:13	02/12/22 03:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/12/22 03:23	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/11/22 11:13	02/12/22 03:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	02/11/22 11:13	02/12/22 03:23	1
1,4-Difluorobenzene (Surr)	108		70 - 130	02/11/22 11:13	02/12/22 03:23	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			02/14/22 09:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/17/22 15:56	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	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 06:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 06:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/10/22 13:35	02/12/22 06:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	77		70 - 130	02/10/22 13:35	02/12/22 06:22	1
o-Terphenyl	80		70 - 130	02/10/22 13:35	02/12/22 06:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66.7		4.98	mg/Kg			02/19/22 10:27	1

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## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
880-11137-A-2-C MS	Matrix Spike	86	122
880-11137-A-2-D MSD	Matrix Spike Duplicate	83	117
890-1924-1	BH01	334 S1+	122
890-1924-2	BH01A	86	93
890-1924-3	BH02	96	118
890-1924-4	BH02A	93	108
890-1924-5	BH03	278 S1+	80
890-1924-6	BH03A	152 S1+	130
890-1924-7	BH04	98	119
890-1924-8	BH04A	103	83
890-1924-9	BH09	137 S1+	96
890-1924-10	BH09A	109	132 S1+
890-1924-11	BH05	108	81
890-1924-12	BH05A	114	104
890-1924-13	BH06	102	87
890-1924-14	BH06A	109	94
890-1924-15	BH08	100	104
890-1924-16	BH08A	108	108
890-1931-A-1-B MSD	Matrix Spike Duplicate	118	84
890-1931-A-1-E MS	Matrix Spike	117	96
LCS 880-18968/1-A	Lab Control Sample	82	115
LCS 880-19035/1-A	Lab Control Sample	107	114
LCSD 880-18968/2-A	Lab Control Sample Dup	77	122
LCSD 880-19035/2-A	Lab Control Sample Dup	102	101
MB 880-18968/5-A	Method Blank	68 S1-	101
MB 880-19035/5-A	Method Blank	89	100
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
890-1924-1	BH01	103	83
890-1924-2	BH01A	86	78
890-1924-3	BH02	78	78
890-1924-4	BH02A	52 S1-	53 S1-
890-1924-5	BH03	106	83
890-1924-6	BH03A	77	74
890-1924-7	BH04	80	76
890-1924-8	BH04A	80	82
890-1924-9	BH09	80	84
890-1924-9 MS	BH09	75	68 S1-
890-1924-9 MSD	BH09	77	68 S1-
890-1924-10	BH09A	71	71
890-1924-11	BH05	73	72

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Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1924-12	BH05A	74	75
890-1924-13	BH06	73	74
890-1924-14	BH06A	74	75
890-1924-15	BH08	79	80
890-1924-16	BH08A	77	80
LCS 880-19049/2-A	Lab Control Sample	99	93
LCSD 880-19049/3-A	Lab Control Sample Dup	99	93
MB 880-19049/1-A	Method Blank	65 S1-	69 S1-
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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

Lab Sample ID: MB 880-18968/5-A

Matrix: Solid

Analysis Batch: 19027

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 18968

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:33	02/10/22 16:22	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:33	02/10/22 16:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:33	02/10/22 16:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/10/22 08:33	02/10/22 16:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:33	02/10/22 16:22	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/10/22 08:33	02/10/22 16:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	02/10/22 08:33	02/10/22 16:22	1
1,4-Difluorobenzene (Surr)	101		70 - 130	02/10/22 08:33	02/10/22 16:22	1

Lab Sample ID: LCS 880-18968/1-A

Matrix: Solid

Analysis Batch: 19027

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18968

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07944		mg/Kg		79	70 - 130
Toluene	0.100	0.08308		mg/Kg		83	70 - 130
Ethylbenzene	0.100	0.07625		mg/Kg		76	70 - 130
m-Xylene & p-Xylene	0.200	0.1694		mg/Kg		85	70 - 130
o-Xylene	0.100	0.09615		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	82		70 - 130
1,4-Difluorobenzene (Surr)	115		70 - 130

Lab Sample ID: LCSD 880-18968/2-A

Matrix: Solid

Analysis Batch: 19027

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 18968

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.07778		mg/Kg		78	70 - 130	2	35
Toluene	0.100	0.07780		mg/Kg		78	70 - 130	7	35
Ethylbenzene	0.100	0.07782		mg/Kg		78	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1636		mg/Kg		82	70 - 130	3	35
o-Xylene	0.100	0.08495		mg/Kg		85	70 - 130	12	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	77		70 - 130
1,4-Difluorobenzene (Surr)	122		70 - 130

Lab Sample ID: 880-11137-A-2-C MS

Matrix: Solid

Analysis Batch: 19027

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00198	U F1	0.100	0.06799	F1	mg/Kg		68	70 - 130
Toluene	<0.00198	U F1	0.100	0.06973	F1	mg/Kg		69	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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

Lab Sample ID: 880-11137-A-2-C MS

Matrix: Solid

Analysis Batch: 19027

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00198	U F1	0.100	0.06940	F1	mg/Kg		69	70 - 130
m-Xylene & p-Xylene	<0.00396	U F1	0.201	0.1450		mg/Kg		72	70 - 130
o-Xylene	<0.00198	U	0.100	0.07478		mg/Kg		74	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	122		70 - 130

Lab Sample ID: 880-11137-A-2-D MSD

Matrix: Solid

Analysis Batch: 19027

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 18968

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U F1	0.100	0.06313	F1	mg/Kg		63	70 - 130	7	35
Toluene	<0.00198	U F1	0.100	0.06855	F1	mg/Kg		69	70 - 130	2	35
Ethylbenzene	<0.00198	U F1	0.100	0.06414	F1	mg/Kg		64	70 - 130	8	35
m-Xylene & p-Xylene	<0.00396	U F1	0.200	0.1322	F1	mg/Kg		66	70 - 130	9	35
o-Xylene	<0.00198	U	0.100	0.07000		mg/Kg		70	70 - 130	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		70 - 130
1,4-Difluorobenzene (Surr)	117		70 - 130

Lab Sample ID: MB 880-19035/5-A

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19035

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/11/22 22:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/11/22 22:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/11/22 22:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/11/22 11:13	02/11/22 22:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/11/22 11:13	02/11/22 22:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/11/22 11:13	02/11/22 22:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	02/11/22 11:13	02/11/22 22:14	1
1,4-Difluorobenzene (Surr)	100		70 - 130	02/11/22 11:13	02/11/22 22:14	1

Lab Sample ID: LCS 880-19035/1-A

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19035

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1024		mg/Kg		102	70 - 130
Toluene	0.100	0.09663		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.1024		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	0.200	0.2128		mg/Kg		106	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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

Lab Sample ID: LCS 880-19035/1-A

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19035

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
o-Xylene	0.100	0.1063		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: LCSD 880-19035/2-A

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19035

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09526		mg/Kg		95	70 - 130	7	35
Toluene	0.100	0.09416		mg/Kg		94	70 - 130	3	35
Ethylbenzene	0.100	0.09640		mg/Kg		96	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1966		mg/Kg		98	70 - 130	8	35
o-Xylene	0.100	0.09795		mg/Kg		98	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-1931-A-1-B MSD

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19035

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.02959	F1 F2	mg/Kg		30	70 - 130	70	35
Toluene	<0.00200	U	0.100	0.03306	F1 F2	mg/Kg		33	70 - 130	69	35
Ethylbenzene	<0.00200	U	0.100	0.03756	F1 F2	mg/Kg		38	70 - 130	64	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.08065	F1 F2	mg/Kg		40	70 - 130	62	35
o-Xylene	<0.00200	U	0.100	0.04342	F1 F2	mg/Kg		43	70 - 130	60	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	84		70 - 130

Lab Sample ID: 890-1931-A-1-E MS

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19035

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.100	0.06170	F1	mg/Kg		61	70 - 130
Toluene	<0.00200	U	0.100	0.06770	F1	mg/Kg		67	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.07320		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.201	0.1536		mg/Kg		76	70 - 130
o-Xylene	<0.00200	U	0.100	0.08076		mg/Kg		80	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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

Lab Sample ID: 890-1931-A-1-E MS

Matrix: Solid

Analysis Batch: 19116

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19035

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

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

Lab Sample ID: MB 880-19049/1-A

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19049

	MB	MB							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil	Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/11/22 22:47	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/11/22 22:47	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:35	02/11/22 22:47	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil	Fac
1-Chlorooctane	65	S1-	70 - 130			02/10/22 13:35	02/11/22 22:47	1	
o-Terphenyl	69	S1-	70 - 130			02/10/22 13:35	02/11/22 22:47	1	

Lab Sample ID: LCS 880-19049/2-A

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19049

	Spike	LCS	LCS					%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	956.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	965.5		mg/Kg		97	70 - 130		
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	99		70 - 130						
o-Terphenyl	93		70 - 130						

Lab Sample ID: LCSD 880-19049/3-A

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19049

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	894.9		mg/Kg		89	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	899.1		mg/Kg		90	70 - 130	7	20
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	99		70 - 130						
o-Terphenyl	93		70 - 130						

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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

Lab Sample ID: 890-1924-9 MS

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: BH09

Prep Type: Total/NA

Prep Batch: 19049

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	966.1		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	886.7		mg/Kg		85	70 - 130		

Lab Sample ID: 890-1924-9 MSD

Matrix: Solid

Analysis Batch: 19105

Client Sample ID: BH09

Prep Type: Total/NA

Prep Batch: 19049

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	989.0		mg/Kg		97	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	917.3		mg/Kg		89	70 - 130	3	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-19415/1-A

Matrix: Solid

Analysis Batch: 19574

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			02/16/22 09:19	1

Lab Sample ID: LCS 880-19415/2-A

Matrix: Solid

Analysis Batch: 19574

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	254.9		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-19415/3-A

Matrix: Solid

Analysis Batch: 19574

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	256.2		mg/Kg		102	90 - 110	1	20

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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

Lab Sample ID: 880-11145-A-7-E MS

Matrix: Solid

Analysis Batch: 19574

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	10700	F1	4990	16330	F1	mg/Kg		112	90 - 110

Lab Sample ID: 880-11145-A-7-F MSD

Matrix: Solid

Analysis Batch: 19574

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	10700	F1	4990	16250	F1	mg/Kg		111	90 - 110	0	20

Lab Sample ID: 880-11146-A-3-D MS

Matrix: Solid

Analysis Batch: 19574

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	1050	F1	1250	2479	F1	mg/Kg		114	90 - 110

Lab Sample ID: 880-11146-A-3-E MSD

Matrix: Solid

Analysis Batch: 19574

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	1050	F1	1250	2453	F1	mg/Kg		112	90 - 110	1	20

Lab Sample ID: MB 880-19422/1-A

Matrix: Solid

Analysis Batch: 19575

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			02/19/22 08:32	1

Lab Sample ID: LCS 880-19422/2-A

Matrix: Solid

Analysis Batch: 19575

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	237.4		mg/Kg		95	90 - 110

Lab Sample ID: LCSD 880-19422/3-A

Matrix: Solid

Analysis Batch: 19575

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	237.5		mg/Kg		95	90 - 110	0	20

Lab Sample ID: 890-1924-10 MS

Matrix: Solid

Analysis Batch: 19575

Client Sample ID: BH09A

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	592	F1	250	797.0	F1	mg/Kg		82	90 - 110

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QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-1924-10 MSD							Client Sample ID: BH09A					
Matrix: Solid							Prep Type: Soluble					
Analysis Batch: 19575												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit	
Chloride	592	F1	250	800.1	F1	mg/Kg		83	90 - 110	0	20	



## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## GC VOA

## Prep Batch: 18968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-1	BH01	Total/NA	Solid	5035	
890-1924-2	BH01A	Total/NA	Solid	5035	
890-1924-3	BH02	Total/NA	Solid	5035	
890-1924-4	BH02A	Total/NA	Solid	5035	
890-1924-5	BH03	Total/NA	Solid	5035	
890-1924-6	BH03A	Total/NA	Solid	5035	
890-1924-7	BH04	Total/NA	Solid	5035	
890-1924-8	BH04A	Total/NA	Solid	5035	
890-1924-9	BH09	Total/NA	Solid	5035	
890-1924-10	BH09A	Total/NA	Solid	5035	
MB 880-18968/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-18968/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-18968/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-11137-A-2-C MS	Matrix Spike	Total/NA	Solid	5035	
880-11137-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 19027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-1	BH01	Total/NA	Solid	8021B	18968
890-1924-2	BH01A	Total/NA	Solid	8021B	18968
890-1924-3	BH02	Total/NA	Solid	8021B	18968
890-1924-4	BH02A	Total/NA	Solid	8021B	18968
890-1924-5	BH03	Total/NA	Solid	8021B	18968
890-1924-6	BH03A	Total/NA	Solid	8021B	18968
890-1924-7	BH04	Total/NA	Solid	8021B	18968
890-1924-8	BH04A	Total/NA	Solid	8021B	18968
890-1924-9	BH09	Total/NA	Solid	8021B	18968
890-1924-10	BH09A	Total/NA	Solid	8021B	18968
MB 880-18968/5-A	Method Blank	Total/NA	Solid	8021B	18968
LCS 880-18968/1-A	Lab Control Sample	Total/NA	Solid	8021B	18968
LCSD 880-18968/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	18968
880-11137-A-2-C MS	Matrix Spike	Total/NA	Solid	8021B	18968
880-11137-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	18968

## Prep Batch: 19035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-11	BH05	Total/NA	Solid	5035	
890-1924-12	BH05A	Total/NA	Solid	5035	
890-1924-13	BH06	Total/NA	Solid	5035	
890-1924-14	BH06A	Total/NA	Solid	5035	
890-1924-15	BH08	Total/NA	Solid	5035	
890-1924-16	BH08A	Total/NA	Solid	5035	
MB 880-19035/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-19035/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-19035/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1931-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
890-1931-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	

## Analysis Batch: 19116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-11	BH05	Total/NA	Solid	8021B	19035

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## GC VOA (Continued)

## Analysis Batch: 19116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-12	BH05A	Total/NA	Solid	8021B	19035
890-1924-13	BH06	Total/NA	Solid	8021B	19035
890-1924-14	BH06A	Total/NA	Solid	8021B	19035
890-1924-15	BH08	Total/NA	Solid	8021B	19035
890-1924-16	BH08A	Total/NA	Solid	8021B	19035
MB 880-19035/5-A	Method Blank	Total/NA	Solid	8021B	19035
LCS 880-19035/1-A	Lab Control Sample	Total/NA	Solid	8021B	19035
LCSD 880-19035/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	19035
890-1931-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	19035
890-1931-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	19035

## Analysis Batch: 19290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-1	BH01	Total/NA	Solid	Total BTEX	
890-1924-2	BH01A	Total/NA	Solid	Total BTEX	
890-1924-3	BH02	Total/NA	Solid	Total BTEX	
890-1924-4	BH02A	Total/NA	Solid	Total BTEX	
890-1924-5	BH03	Total/NA	Solid	Total BTEX	
890-1924-6	BH03A	Total/NA	Solid	Total BTEX	
890-1924-7	BH04	Total/NA	Solid	Total BTEX	
890-1924-8	BH04A	Total/NA	Solid	Total BTEX	
890-1924-9	BH09	Total/NA	Solid	Total BTEX	
890-1924-10	BH09A	Total/NA	Solid	Total BTEX	

## Analysis Batch: 19350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-12	BH05A	Total/NA	Solid	Total BTEX	
890-1924-13	BH06	Total/NA	Solid	Total BTEX	
890-1924-14	BH06A	Total/NA	Solid	Total BTEX	
890-1924-15	BH08	Total/NA	Solid	Total BTEX	
890-1924-16	BH08A	Total/NA	Solid	Total BTEX	

## Analysis Batch: 19367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-11	BH05	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 19049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-1	BH01	Total/NA	Solid	8015NM Prep	
890-1924-2	BH01A	Total/NA	Solid	8015NM Prep	
890-1924-3	BH02	Total/NA	Solid	8015NM Prep	
890-1924-4	BH02A	Total/NA	Solid	8015NM Prep	
890-1924-5	BH03	Total/NA	Solid	8015NM Prep	
890-1924-6	BH03A	Total/NA	Solid	8015NM Prep	
890-1924-7	BH04	Total/NA	Solid	8015NM Prep	
890-1924-8	BH04A	Total/NA	Solid	8015NM Prep	
890-1924-9	BH09	Total/NA	Solid	8015NM Prep	
890-1924-10	BH09A	Total/NA	Solid	8015NM Prep	
890-1924-11	BH05	Total/NA	Solid	8015NM Prep	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## GC Semi VOA (Continued)

## Prep Batch: 19049 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-12	BH05A	Total/NA	Solid	8015NM Prep	
890-1924-13	BH06	Total/NA	Solid	8015NM Prep	
890-1924-14	BH06A	Total/NA	Solid	8015NM Prep	
890-1924-15	BH08	Total/NA	Solid	8015NM Prep	
890-1924-16	BH08A	Total/NA	Solid	8015NM Prep	
MB 880-19049/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-19049/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-19049/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1924-9 MS	BH09	Total/NA	Solid	8015NM Prep	
890-1924-9 MSD	BH09	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 19105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-1	BH01	Total/NA	Solid	8015B NM	19049
890-1924-2	BH01A	Total/NA	Solid	8015B NM	19049
890-1924-3	BH02	Total/NA	Solid	8015B NM	19049
890-1924-4	BH02A	Total/NA	Solid	8015B NM	19049
890-1924-5	BH03	Total/NA	Solid	8015B NM	19049
890-1924-6	BH03A	Total/NA	Solid	8015B NM	19049
890-1924-7	BH04	Total/NA	Solid	8015B NM	19049
890-1924-8	BH04A	Total/NA	Solid	8015B NM	19049
890-1924-9	BH09	Total/NA	Solid	8015B NM	19049
890-1924-10	BH09A	Total/NA	Solid	8015B NM	19049
890-1924-11	BH05	Total/NA	Solid	8015B NM	19049
890-1924-12	BH05A	Total/NA	Solid	8015B NM	19049
890-1924-13	BH06	Total/NA	Solid	8015B NM	19049
890-1924-14	BH06A	Total/NA	Solid	8015B NM	19049
890-1924-15	BH08	Total/NA	Solid	8015B NM	19049
890-1924-16	BH08A	Total/NA	Solid	8015B NM	19049
MB 880-19049/1-A	Method Blank	Total/NA	Solid	8015B NM	19049
LCS 880-19049/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	19049
LCSD 880-19049/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	19049
890-1924-9 MS	BH09	Total/NA	Solid	8015B NM	19049
890-1924-9 MSD	BH09	Total/NA	Solid	8015B NM	19049

## Analysis Batch: 19741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-1	BH01	Total/NA	Solid	8015 NM	
890-1924-2	BH01A	Total/NA	Solid	8015 NM	
890-1924-3	BH02	Total/NA	Solid	8015 NM	
890-1924-4	BH02A	Total/NA	Solid	8015 NM	
890-1924-5	BH03	Total/NA	Solid	8015 NM	
890-1924-6	BH03A	Total/NA	Solid	8015 NM	
890-1924-7	BH04	Total/NA	Solid	8015 NM	
890-1924-8	BH04A	Total/NA	Solid	8015 NM	
890-1924-9	BH09	Total/NA	Solid	8015 NM	
890-1924-10	BH09A	Total/NA	Solid	8015 NM	
890-1924-11	BH05	Total/NA	Solid	8015 NM	
890-1924-12	BH05A	Total/NA	Solid	8015 NM	
890-1924-13	BH06	Total/NA	Solid	8015 NM	
890-1924-14	BH06A	Total/NA	Solid	8015 NM	

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## GC Semi VOA (Continued)

## Analysis Batch: 19741 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-15	BH08	Total/NA	Solid	8015 NM	
890-1924-16	BH08A	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 19415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-1	BH01	Soluble	Solid	DI Leach	
890-1924-2	BH01A	Soluble	Solid	DI Leach	
890-1924-3	BH02	Soluble	Solid	DI Leach	
890-1924-4	BH02A	Soluble	Solid	DI Leach	
890-1924-5	BH03	Soluble	Solid	DI Leach	
890-1924-6	BH03A	Soluble	Solid	DI Leach	
890-1924-7	BH04	Soluble	Solid	DI Leach	
890-1924-8	BH04A	Soluble	Solid	DI Leach	
890-1924-9	BH09	Soluble	Solid	DI Leach	
MB 880-19415/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19415/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19415/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-11145-A-7-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11145-A-7-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
880-11146-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-11146-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Leach Batch: 19422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-10	BH09A	Soluble	Solid	DI Leach	
890-1924-11	BH05	Soluble	Solid	DI Leach	
890-1924-12	BH05A	Soluble	Solid	DI Leach	
890-1924-13	BH06	Soluble	Solid	DI Leach	
890-1924-14	BH06A	Soluble	Solid	DI Leach	
890-1924-15	BH08	Soluble	Solid	DI Leach	
890-1924-16	BH08A	Soluble	Solid	DI Leach	
MB 880-19422/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19422/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19422/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1924-10 MS	BH09A	Soluble	Solid	DI Leach	
890-1924-10 MSD	BH09A	Soluble	Solid	DI Leach	

## Analysis Batch: 19574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-1	BH01	Soluble	Solid	300.0	19415
890-1924-2	BH01A	Soluble	Solid	300.0	19415
890-1924-3	BH02	Soluble	Solid	300.0	19415
890-1924-4	BH02A	Soluble	Solid	300.0	19415
890-1924-5	BH03	Soluble	Solid	300.0	19415
890-1924-6	BH03A	Soluble	Solid	300.0	19415
890-1924-7	BH04	Soluble	Solid	300.0	19415
890-1924-8	BH04A	Soluble	Solid	300.0	19415
890-1924-9	BH09	Soluble	Solid	300.0	19415
MB 880-19415/1-A	Method Blank	Soluble	Solid	300.0	19415

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## HPLC/IC (Continued)

## Analysis Batch: 19574 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-19415/2-A	Lab Control Sample	Soluble	Solid	300.0	19415
LCSD 880-19415/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19415
880-11145-A-7-E MS	Matrix Spike	Soluble	Solid	300.0	19415
880-11145-A-7-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	19415
880-11146-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	19415
880-11146-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	19415

## Analysis Batch: 19575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1924-10	BH09A	Soluble	Solid	300.0	19422
890-1924-11	BH05	Soluble	Solid	300.0	19422
890-1924-12	BH05A	Soluble	Solid	300.0	19422
890-1924-13	BH06	Soluble	Solid	300.0	19422
890-1924-14	BH06A	Soluble	Solid	300.0	19422
890-1924-15	BH08	Soluble	Solid	300.0	19422
890-1924-16	BH08A	Soluble	Solid	300.0	19422
MB 880-19422/1-A	Method Blank	Soluble	Solid	300.0	19422
LCS 880-19422/2-A	Lab Control Sample	Soluble	Solid	300.0	19422
LCSD 880-19422/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19422
890-1924-10 MS	BH09A	Soluble	Solid	300.0	19422
890-1924-10 MSD	BH09A	Soluble	Solid	300.0	19422

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH01

Lab Sample ID: 890-1924-1

Date Collected: 02/08/22 08:35

Matrix: Solid

Date Received: 02/09/22 08:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 18:37	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 00:59	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	19415	02/14/22 13:08	SC	XEN MID
Soluble	Analysis	300.0		10			19574	02/16/22 12:16	CH	XEN MID

Client Sample ID: BH01A

Lab Sample ID: 890-1924-2

Date Collected: 02/08/22 14:00

Matrix: Solid

Date Received: 02/09/22 08:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 19:05	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 01:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	19415	02/14/22 13:08	SC	XEN MID
Soluble	Analysis	300.0		5			19574	02/16/22 12:25	CH	XEN MID

Client Sample ID: BH02

Lab Sample ID: 890-1924-3

Date Collected: 02/08/22 09:40

Matrix: Solid

Date Received: 02/09/22 08:38

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	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 19:32	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 01:41	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	19415	02/14/22 13:08	SC	XEN MID
Soluble	Analysis	300.0		20			19574	02/16/22 12:52	CH	XEN MID

Client Sample ID: BH02A

Lab Sample ID: 890-1924-4

Date Collected: 02/08/22 09:46

Matrix: Solid

Date Received: 02/09/22 08:38

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	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 19:59	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

## Client Sample ID: BH02A

## Lab Sample ID: 890-1924-4

Date Collected: 02/08/22 09:46

Matrix: Solid

Date Received: 02/09/22 08:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 02:03	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	19415	02/14/22 13:08	SC	XEN MID
Soluble	Analysis	300.0		20			19574	02/16/22 13:01	CH	XEN MID

## Client Sample ID: BH03

## Lab Sample ID: 890-1924-5

Date Collected: 02/08/22 09:54

Matrix: Solid

Date Received: 02/09/22 08:38

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	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 20:27	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		5			19105	02/12/22 02:26	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	19415	02/14/22 13:08	SC	XEN MID
Soluble	Analysis	300.0		10			19574	02/16/22 13:09	CH	XEN MID

## Client Sample ID: BH03A

## Lab Sample ID: 890-1924-6

Date Collected: 02/08/22 10:05

Matrix: Solid

Date Received: 02/09/22 08:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 20:54	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 02:48	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	19415	02/14/22 13:08	SC	XEN MID
Soluble	Analysis	300.0		20			19574	02/16/22 13:18	CH	XEN MID

## Client Sample ID: BH04

## Lab Sample ID: 890-1924-7

Date Collected: 02/08/22 10:18

Matrix: Solid

Date Received: 02/09/22 08:38

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	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 21:21	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 03:10	AJ	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH04

Lab Sample ID: 890-1924-7

Date Collected: 02/08/22 10:18

Matrix: Solid

Date Received: 02/09/22 08:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	19415	02/14/22 13:08	SC	XEN MID
Soluble	Analysis	300.0		10			19574	02/16/22 13:27	CH	XEN MID

Client Sample ID: BH04A

Lab Sample ID: 890-1924-8

Date Collected: 02/08/22 10:26

Matrix: Solid

Date Received: 02/09/22 08:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 22:42	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 03:31	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	19415	02/14/22 13:08	SC	XEN MID
Soluble	Analysis	300.0		10	0 mL	1.0 mL	19574	02/16/22 13:36	CH	XEN MID

Client Sample ID: BH09

Lab Sample ID: 890-1924-9

Date Collected: 02/08/22 14:20

Matrix: Solid

Date Received: 02/09/22 08:38

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	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 23:10	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/11/22 23:53	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	19415	02/14/22 13:08	SC	XEN MID
Soluble	Analysis	300.0		10	0 mL	1.0 mL	19574	02/16/22 13:45	CH	XEN MID

Client Sample ID: BH09A

Lab Sample ID: 890-1924-10

Date Collected: 02/08/22 14:28

Matrix: Solid

Date Received: 02/09/22 08:38

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	18968	02/10/22 08:33	KL	XEN MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	19027	02/10/22 23:37	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19290	02/14/22 08:53	MR	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 03:52	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		1			19575	02/19/22 08:58	CH	XEN MID

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## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH05

Lab Sample ID: 890-1924-11

Date Collected: 02/08/22 11:50

Matrix: Solid

Date Received: 02/09/22 08:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	19035	02/11/22 11:13	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/12/22 01:19	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19367	02/14/22 10:01	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 04:35	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		1			19575	02/19/22 09:25	CH	XEN MID

Client Sample ID: BH05A

Lab Sample ID: 890-1924-12

Date Collected: 02/08/22 11:55

Matrix: Solid

Date Received: 02/09/22 08:38

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	19035	02/11/22 11:13	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/12/22 00:38	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 04:57	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		1			19575	02/19/22 09:34	CH	XEN MID

Client Sample ID: BH06

Lab Sample ID: 890-1924-13

Date Collected: 02/08/22 11:37

Matrix: Solid

Date Received: 02/09/22 08:38

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	19035	02/11/22 11:13	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/12/22 00:59	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 05:18	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		1			19575	02/19/22 09:42	CH	XEN MID

Client Sample ID: BH06A

Lab Sample ID: 890-1924-14

Date Collected: 02/08/22 11:40

Matrix: Solid

Date Received: 02/09/22 08:38

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	19035	02/11/22 11:13	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/12/22 01:40	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID

Eurofins Carlsbad

## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Client Sample ID: BH06A

Lab Sample ID: 890-1924-14

Date Collected: 02/08/22 11:40

Matrix: Solid

Date Received: 02/09/22 08:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 05:41	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		1			19575	02/19/22 09:51	CH	XEN MID

Client Sample ID: BH08

Lab Sample ID: 890-1924-15

Date Collected: 02/08/22 10:29

Matrix: Solid

Date Received: 02/09/22 08:38

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	19035	02/11/22 11:13	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/12/22 03:02	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 06:02	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		1			19575	02/19/22 10:18	CH	XEN MID

Client Sample ID: BH08A

Lab Sample ID: 890-1924-16

Date Collected: 02/08/22 10:30

Matrix: Solid

Date Received: 02/09/22 08:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	19035	02/11/22 11:13	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19116	02/12/22 03:23	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19350	02/14/22 09:43	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	19049	02/10/22 13:35	DM	XEN MID
Total/NA	Analysis	8015B NM		1			19105	02/12/22 06:22	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		1			19575	02/19/22 10:27	CH	XEN MID

## Laboratory References:

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

Eurofins Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

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: Queenie 15 Federal #001H

Job ID: 890-1924-1  
SDG: 31403152.016

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1924-1	BH01	Solid	02/08/22 08:35	02/09/22 08:38	1
890-1924-2	BH01A	Solid	02/08/22 14:00	02/09/22 08:38	3
890-1924-3	BH02	Solid	02/08/22 09:40	02/09/22 08:38	1
890-1924-4	BH02A	Solid	02/08/22 09:46	02/09/22 08:38	2
890-1924-5	BH03	Solid	02/08/22 09:54	02/09/22 08:38	1
890-1924-6	BH03A	Solid	02/08/22 10:05	02/09/22 08:38	2
890-1924-7	BH04	Solid	02/08/22 10:18	02/09/22 08:38	1
890-1924-8	BH04A	Solid	02/08/22 10:26	02/09/22 08:38	2
890-1924-9	BH09	Solid	02/08/22 14:20	02/09/22 08:38	0.3
890-1924-10	BH09A	Solid	02/08/22 14:28	02/09/22 08:38	1
890-1924-11	BH05	Solid	02/08/22 11:50	02/09/22 08:38	0.5
890-1924-12	BH05A	Solid	02/08/22 11:55	02/09/22 08:38	1
890-1924-13	BH06	Solid	02/08/22 11:37	02/09/22 08:38	0.5
890-1924-14	BH06A	Solid	02/08/22 11:40	02/09/22 08:38	1
890-1924-15	BH08	Solid	02/08/22 10:29	02/09/22 08:38	0.5
890-1924-16	BH08A	Solid	02/08/22 10:30	02/09/22 08:38	1



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

## Chain of Custody

Work Order No: \_\_\_\_\_

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Project Manager:	Joseph Hernandez	Bill to: (if different)	
Company Name:	WSP USA Inc., Permian office	Company Name:	
Address:	3300 North A St. Bldg 1, Unit 222	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad NM, 88220
Phone:	(432) 704-5178	Email:	travis.casey@wsp.com, kalei.jennings@wsp.com, dan.moir@wsp.com

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

## ANALYSIS REQUEST

## Work Order Notes

Project Name:	Queenie 15 Federal #001H	Turn Around	
Project Number:	31403152.016	Rush:	
P.O. Number:	31403152.016	Rush:	
Sampler's Name:	Travis Casey	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	1.6/1.4	Thermometer ID				
Received Intact:	Yes	No	Correction Factor:			
Cooler Custody Seals:	Yes	No	Total Containers:			
Sample Custody Seals:	Yes	No	Total Containers:			



890-1924 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
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Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST	Work Order Notes
BH01	S	2/8/2022	8:35	1	1	X	X	X		IN: nAPP2201862045
BH01A	S	2/8/2022	14:00	3	1	X	X	X		WB: C1.22.00191
BH02	S	2/8/2022	9:40	1	1	X	X	X		
BH02A	S	2/8/2022	9:46	2	1	X	X	X		
BH03	S	2/8/2022	9:54	1	1	X	X	X		
BH03A	S	2/8/2022	10:05	2	1	X	X	X		
BH04	S	2/8/2022	10:18	1	1	X	X	X		
BH04A	S	2/8/2022	10:26	2	1	X	X	X		
BH09	S	2/8/2022	14:20	0.5	1	X	X	X		
BH09A	S	2/8/2022	14:28	1	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn  
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		02/04/22, 0800			2902838



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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) 291-1111

## Chain of Custody

**Work Order No:**

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2/21/2022

Project Manager:	Joseph Hernandez	Bill to: (if different)	
Company Name:	WSP USA Inc., Permian office	Company Name:	
Address:	3300 North A St. Bldg 1, Unit 222	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad NM, 86220
Phone:	(432) 704-5178	Email:	travis.casey@wsp.com, kalei.jennings@wsp.com, dan.moir@wsp.com

Work Order Comments				
Program: <u>UST/PT</u>	<u>PRP</u>	<u>Brownfields</u>	<u>RRC</u>	<u>Superfund</u>
State of Project:	<u>NM</u>			
Reporting Level: <u>II</u>	<u>Level III</u>	<u>PST/UST</u>	<u>TRAP</u>	<u>Level IV</u>
Deliverables: <u>EDD</u>	<u>ADAPT</u>	Other: _____		

Project Name:	Queenie 15 Federal #001H	Turn Around
Project Number:	<del>21403152</del> AC	Routine $\alpha$
P.O. Number:	31403152. 016	Rush:
Sampler's Name:	Travis Casey	Due Date:

ANALYSIS REQUEST										Work Order Notes
										IN: nAPP22018662045 WBS: CI.22.00191


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

[illegible][illegible]

**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
<b>TCLP / SPLP 6010:</b> 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U																															
1631 / 245.1 / 7470 / 7471 : Hg																															

**Notice:** Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if those losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	<i>Mr. Miller</i>	02/09/22; 0300z	<i>Mr. Miller</i>	<i>Mr. Culp</i>	29 20 338

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1924-1

SDG Number: 31403152.016

Login Number: 1924

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: 890-1924-1

SDG Number: 31403152.016

Login Number: 1924

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/10/22 12:21 PM

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





## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-1926-1

Laboratory Sample Delivery Group: 31403152.016

Client Project/Site: Queenie 15 Federal #001h

**For:**

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

Attn: Joseph Hernandez

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

Authorized for release by:  
2/21/2022 7:02:52 PM

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

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

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



Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Laboratory Job ID: 890-1926-1  
SDG: 31403152.016

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

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

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

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**Job ID: 890-1926-1**

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**Laboratory: Eurofins Carlsbad**

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**Narrative**

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**Job Narrative**  
**890-1926-1**

**Receipt**

The samples were received on 2/9/2022 12:49 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 1.0°C

**GC VOA**

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

**GC Semi VOA**

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-19048 and analytical batch 880-18980 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (890-1919-A-1-C). Evidence of matrix interferences is not obvious.

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

**HPLC/IC**

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-19422 and analytical batch 880-19575 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

Client Sample ID: BH07

Lab Sample ID: 890-1926-1

Date Collected: 02/09/22 11:10

Matrix: Solid

Date Received: 02/09/22 12:49

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/10/22 08:26	02/11/22 08:54	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/10/22 08:26	02/11/22 08:54	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/10/22 08:26	02/11/22 08:54	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/10/22 08:26	02/11/22 08:54	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/10/22 08:26	02/11/22 08:54	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/10/22 08:26	02/11/22 08:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	02/10/22 08:26	02/11/22 08:54	1
1,4-Difluorobenzene (Surr)	81		70 - 130	02/10/22 08:26	02/11/22 08:54	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/14/22 10:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/17/22 15:56	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	<49.9	U	49.9	mg/Kg		02/10/22 13:28	02/11/22 02:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/10/22 13:28	02/11/22 02:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/10/22 13:28	02/11/22 02:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	02/10/22 13:28	02/11/22 02:04	1
o-Terphenyl	116		70 - 130	02/10/22 13:28	02/11/22 02:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	129		4.95	mg/Kg			02/19/22 10:36	1

Client Sample ID: BH07A

Lab Sample ID: 890-1926-2

Date Collected: 02/09/22 11:15

Matrix: Solid

Date Received: 02/09/22 12:49

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:26	02/11/22 09:15	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:26	02/11/22 09:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:26	02/11/22 09:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/10/22 08:26	02/11/22 09:15	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:26	02/11/22 09:15	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/10/22 08:26	02/11/22 09:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	02/10/22 08:26	02/11/22 09:15	1

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## Client Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

Client Sample ID: BH07A

Lab Sample ID: 890-1926-2

Date Collected: 02/09/22 11:15

Matrix: Solid

Date Received: 02/09/22 12:49

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	79		70 - 130	02/10/22 08:26	02/11/22 09:15	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			02/14/22 10:01	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			02/17/22 15:56	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		02/10/22 13:28	02/11/22 02:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/10/22 13:28	02/11/22 02:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:28	02/11/22 02:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130			02/10/22 13:28	02/11/22 02:26	1
o-Terphenyl	98		70 - 130			02/10/22 13:28	02/11/22 02:26	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	176		5.04	mg/Kg			02/19/22 10:44	1

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-10981-A-1-E MS	Matrix Spike	126	90
880-10981-A-1-F MSD	Matrix Spike Duplicate	141 S1+	106
890-1926-1	BH07	109	81
890-1926-2	BH07A	119	79
LCS 880-18967/1-A	Lab Control Sample	108	86
LCSD 880-18967/2-A	Lab Control Sample Dup	122	106
MB 880-18967/5-A	Method Blank	126	96
MB 880-19012/8	Method Blank	138 S1+	94
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1919-A-1-D MS	Matrix Spike	123	82
890-1919-A-1-E MSD	Matrix Spike Duplicate	120	85
890-1926-1	BH07	111	116
890-1926-2	BH07A	91	98
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO2 (70-130)	OTPH2 (70-130)
LCS 880-19048/2-A	Lab Control Sample	91	101
LCSD 880-19048/3-A	Lab Control Sample Dup	100	112
MB 880-19048/1-A	Method Blank	94	99
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

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

Lab Sample ID: MB 880-18967/5-A

Matrix: Solid

Analysis Batch: 19012

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 18967

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:26	02/11/22 01:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:26	02/11/22 01:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:26	02/11/22 01:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/10/22 08:26	02/11/22 01:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/10/22 08:26	02/11/22 01:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/10/22 08:26	02/11/22 01:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	02/10/22 08:26	02/11/22 01:00	1
1,4-Difluorobenzene (Surr)	96		70 - 130	02/10/22 08:26	02/11/22 01:00	1

Lab Sample ID: LCS 880-18967/1-A

Matrix: Solid

Analysis Batch: 19012

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18967

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07786		mg/Kg		78	70 - 130
Toluene	0.100	0.08344		mg/Kg		83	70 - 130
Ethylbenzene	0.100	0.09126		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1772		mg/Kg		89	70 - 130
o-Xylene	0.100	0.09153		mg/Kg		92	70 - 130

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

Lab Sample ID: LCSD 880-18967/2-A

Matrix: Solid

Analysis Batch: 19012

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 18967

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09303		mg/Kg		93	70 - 130	18	35
Toluene	0.100	0.09686		mg/Kg		97	70 - 130	15	35
Ethylbenzene	0.100	0.1027		mg/Kg		103	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.1956		mg/Kg		98	70 - 130	10	35
o-Xylene	0.100	0.09594		mg/Kg		96	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 880-10981-A-1-E MS

Matrix: Solid

Analysis Batch: 19012

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F1 F2	0.0996	0.02863	F1	mg/Kg		29	70 - 130
Toluene	<0.00200	U F1 F2	0.0996	0.03494	F1	mg/Kg		35	70 - 130

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

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

Lab Sample ID: 880-10981-A-1-E MS

Matrix: Solid

Analysis Batch: 19012

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 18967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U F1 F2	0.0996	0.03651	F1	mg/Kg		37	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1 F2	0.199	0.07573	F1	mg/Kg		38	70 - 130
o-Xylene	<0.00200	U F1 F2	0.0996	0.03926	F1	mg/Kg		39	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	126		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Lab Sample ID: 880-10981-A-1-F MSD

Matrix: Solid

Analysis Batch: 19012

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 18967

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	0.0998	0.06334	F1 F2	mg/Kg		63	70 - 130	75	35
Toluene	<0.00200	U F1 F2	0.0998	0.07214	F2	mg/Kg		72	70 - 130	69	35
Ethylbenzene	<0.00200	U F1 F2	0.0998	0.07209	F2	mg/Kg		72	70 - 130	66	35
m-Xylene & p-Xylene	<0.00401	U F1 F2	0.200	0.1443	F2	mg/Kg		72	70 - 130	62	35
o-Xylene	<0.00200	U F1 F2	0.0998	0.07133	F2	mg/Kg		71	70 - 130	58	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: MB 880-19012/8

Matrix: Solid

Analysis Batch: 19012

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			02/10/22 13:24	1
Toluene	<0.00200	U	0.00200	mg/Kg			02/10/22 13:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			02/10/22 13:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			02/10/22 13:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			02/10/22 13:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			02/10/22 13:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130		02/10/22 13:24	1
1,4-Difluorobenzene (Surr)	94		70 - 130		02/10/22 13:24	1

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

Lab Sample ID: MB 880-19048/1-A

Matrix: Solid

Analysis Batch: 18980

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19048

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/10/22 13:28	02/10/22 20:24	1

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

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

Lab Sample ID: MB 880-19048/1-A

Matrix: Solid

Analysis Batch: 18980

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 19048

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/10/22 13:28	02/10/22 20:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/10/22 13:28	02/10/22 20:24	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130			02/10/22 13:28	02/10/22 20:24	1
o-Terphenyl	99		70 - 130			02/10/22 13:28	02/10/22 20:24	1

Lab Sample ID: LCS 880-19048/2-A

Matrix: Solid

Analysis Batch: 18980

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 19048

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	960.7		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	1000	944.6		mg/Kg		94	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	91		70 - 130				
o-Terphenyl	101		70 - 130				

Lab Sample ID: LCSD 880-19048/3-A

Matrix: Solid

Analysis Batch: 18980

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 19048

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1022		mg/Kg		102	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	1000	1026		mg/Kg		103	70 - 130	8	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	100		70 - 130						
o-Terphenyl	112		70 - 130						

Lab Sample ID: 890-1919-A-1-D MS

Matrix: Solid

Analysis Batch: 18980

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19048

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	532		1000	1613		mg/Kg		108	70 - 130
Diesel Range Organics (Over C10-C28)	2800	F1	1000	3100	F1	mg/Kg		30	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	123		70 - 130						
o-Terphenyl	82		70 - 130						

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

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

Lab Sample ID: 890-1919-A-1-E MSD

Matrix: Solid

Analysis Batch: 18980

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 19048

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	532		998	1549		mg/Kg		102	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	2800	F1	998	3065	F1	mg/Kg		26	70 - 130	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	120		70 - 130								
o-Terphenyl	85		70 - 130								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-19422/1-A

Matrix: Solid

Analysis Batch: 19575

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			02/19/22 08:32	1

Lab Sample ID: LCS 880-19422/2-A

Matrix: Solid

Analysis Batch: 19575

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	237.4		mg/Kg		95	90 - 110

Lab Sample ID: LCSD 880-19422/3-A

Matrix: Solid

Analysis Batch: 19575

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	237.5		mg/Kg		95	90 - 110	0	20

Lab Sample ID: 890-1924-A-10-D MS

Matrix: Solid

Analysis Batch: 19575

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	592	F1	250	797.0	F1	mg/Kg		82	90 - 110

Lab Sample ID: 890-1924-A-10-E MSD

Matrix: Solid

Analysis Batch: 19575

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	592	F1	250	800.1	F1	mg/Kg		83	90 - 110	0	20

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## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

## GC VOA

## Prep Batch: 18967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1926-1	BH07	Total/NA	Solid	5035	
890-1926-2	BH07A	Total/NA	Solid	5035	
MB 880-18967/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-18967/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-18967/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-10981-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
880-10981-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 19012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1926-1	BH07	Total/NA	Solid	8021B	18967
890-1926-2	BH07A	Total/NA	Solid	8021B	18967
MB 880-18967/5-A	Method Blank	Total/NA	Solid	8021B	18967
MB 880-19012/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-18967/1-A	Lab Control Sample	Total/NA	Solid	8021B	18967
LCSD 880-18967/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	18967
880-10981-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	18967
880-10981-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	18967

## Analysis Batch: 19367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1926-1	BH07	Total/NA	Solid	Total BTEX	
890-1926-2	BH07A	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Analysis Batch: 18980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1926-1	BH07	Total/NA	Solid	8015B NM	19048
890-1926-2	BH07A	Total/NA	Solid	8015B NM	19048
MB 880-19048/1-A	Method Blank	Total/NA	Solid	8015B NM	19048
LCS 880-19048/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	19048
LCSD 880-19048/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	19048
890-1919-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	19048
890-1919-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	19048

## Prep Batch: 19048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1926-1	BH07	Total/NA	Solid	8015NM Prep	
890-1926-2	BH07A	Total/NA	Solid	8015NM Prep	
MB 880-19048/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-19048/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-19048/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1919-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1919-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 19741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1926-1	BH07	Total/NA	Solid	8015 NM	
890-1926-2	BH07A	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

## HPLC/IC

## Leach Batch: 19422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1926-1	BH07	Soluble	Solid	DI Leach	
890-1926-2	BH07A	Soluble	Solid	DI Leach	
MB 880-19422/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-19422/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-19422/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1924-A-10-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1924-A-10-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 19575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1926-1	BH07	Soluble	Solid	300.0	19422
890-1926-2	BH07A	Soluble	Solid	300.0	19422
MB 880-19422/1-A	Method Blank	Soluble	Solid	300.0	19422
LCS 880-19422/2-A	Lab Control Sample	Soluble	Solid	300.0	19422
LCSD 880-19422/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	19422
890-1924-A-10-D MS	Matrix Spike	Soluble	Solid	300.0	19422
890-1924-A-10-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	19422



## Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

Client Sample ID: BH07

Lab Sample ID: 890-1926-1

Date Collected: 02/09/22 11:10

Matrix: Solid

Date Received: 02/09/22 12:49

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	18967	02/10/22 08:26	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19012	02/11/22 08:54	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19367	02/14/22 10:01	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	19048	02/10/22 13:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1			18980	02/11/22 02:04	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		1			19575	02/19/22 10:36	CH	XEN MID

Client Sample ID: BH07A

Lab Sample ID: 890-1926-2

Date Collected: 02/09/22 11:15

Matrix: Solid

Date Received: 02/09/22 12:49

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	18967	02/10/22 08:26	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	19012	02/11/22 09:15	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			19367	02/14/22 10:01	KL	XEN MID
Total/NA	Analysis	8015 NM		1			19741	02/17/22 15:56	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	19048	02/10/22 13:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1			18980	02/11/22 02:26	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	19422	02/14/22 13:40	SC	XEN MID
Soluble	Analysis	300.0		1			19575	02/19/22 10:44	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: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

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: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

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: Queenie 15 Federal #001h

Job ID: 890-1926-1  
SDG: 31403152.016

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1926-1	BH07	Solid	02/09/22 11:10	02/09/22 12:49	0.5
890-1926-2	BH07A	Solid	02/09/22 11:15	02/09/22 12:49	1

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



## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1926-1

SDG Number: 31403152.016

Login Number: 1926

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: 890-1926-1

SDG Number: 31403152.016

Login Number: 1926

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/10/22 12:21 PM

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



## Environment Testing America

### ANALYTICAL REPORT

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

Laboratory Job ID: 890-2058-1

Laboratory Sample Delivery Group: 31403152.0169

Client Project/Site: Queenie 15 Federal #001H

**For:**

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

Attn: Joseph Hernandez

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

Authorized for release by:  
3/11/2022 9:37:07 AM

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

#### LINKS

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

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

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Laboratory Job ID: 890-2058-1  
SDG: 31403152.0169

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## Definitions/Glossary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

## Qualifiers

## GC VOA

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

## GC Semi VOA

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

## HPLC/IC

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

## Glossary

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

## Case Narrative

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

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**Job ID: 890-2058-1**

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**Laboratory: Eurofins Carlsbad**

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**Narrative**

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**Job Narrative**  
**890-2058-1**

**Receipt**

The sample was received on 3/9/2022 10:41 AM. 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 0.8°C

**GC VOA**

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

**GC Semi VOA**

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

**HPLC/IC**

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-21235 and analytical batch 880-21319 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: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

Client Sample ID: BH03

Lab Sample ID: 890-2058-1

Date Collected: 03/09/22 09:30

Matrix: Solid

Date Received: 03/09/22 10:41

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/10/22 07:30	03/10/22 14:28	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/10/22 07:30	03/10/22 14:28	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/10/22 07:30	03/10/22 14:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/10/22 07:30	03/10/22 14:28	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/10/22 07:30	03/10/22 14:28	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/10/22 07:30	03/10/22 14:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	03/10/22 07:30	03/10/22 14:28	1
1,4-Difluorobenzene (Surr)	98		70 - 130	03/10/22 07:30	03/10/22 14:28	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/10/22 16:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	214		49.9	mg/Kg			03/11/22 10:24	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	<49.9	U	49.9	mg/Kg		03/10/22 14:00	03/11/22 02:22	1
Diesel Range Organics (Over C10-C28)	214		49.9	mg/Kg		03/10/22 14:00	03/11/22 02:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/10/22 14:00	03/11/22 02:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	03/10/22 14:00	03/11/22 02:22	1
o-Terphenyl	112		70 - 130	03/10/22 14:00	03/11/22 02:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5150		50.4	mg/Kg			03/10/22 18:17	10

Eurofins Carlsbad

## Surrogate Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-12215-A-1-D MS	Matrix Spike	104	99
880-12215-A-1-E MSD	Matrix Spike Duplicate	99	97
890-2058-1	BH03	105	98
LCS 880-21140/1-A	Lab Control Sample	103	101
LCSD 880-21140/2-A	Lab Control Sample Dup	101	99
MB 880-21140/5-A	Method Blank	102	95
<b>Surrogate Legend</b>			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2058-1	BH03	106	112
<b>Surrogate Legend</b>			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			



## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

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

Lab Sample ID: MB 880-21140/5-A

Matrix: Solid

Analysis Batch: 21273

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21140

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/10/22 07:30	03/10/22 11:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/10/22 07:30	03/10/22 11:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/10/22 07:30	03/10/22 11:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/10/22 07:30	03/10/22 11:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/10/22 07:30	03/10/22 11:23	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/10/22 07:30	03/10/22 11:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	03/10/22 07:30	03/10/22 11:23	1
1,4-Difluorobenzene (Surr)	95		70 - 130	03/10/22 07:30	03/10/22 11:23	1

Lab Sample ID: LCS 880-21140/1-A

Matrix: Solid

Analysis Batch: 21273

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 21140

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1031		mg/Kg		103	70 - 130
Toluene	0.100	0.1017		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.1016		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	0.200	0.2115		mg/Kg		106	70 - 130
o-Xylene	0.100	0.1027		mg/Kg		103	70 - 130

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

Lab Sample ID: LCSD 880-21140/2-A

Matrix: Solid

Analysis Batch: 21273

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 21140

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09642		mg/Kg		96	70 - 130	7	35
Toluene	0.100	0.09504		mg/Kg		95	70 - 130	7	35
Ethylbenzene	0.100	0.09497		mg/Kg		95	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.1969		mg/Kg		98	70 - 130	7	35
o-Xylene	0.100	0.09585		mg/Kg		96	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 880-12215-A-1-D MS

Matrix: Solid

Analysis Batch: 21273

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 21140

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00198	U	0.0996	0.09790		mg/Kg		98	70 - 130
Toluene	<0.00198	U	0.0996	0.09742		mg/Kg		98	70 - 130

Eurofins Carlsbad

## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

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

Lab Sample ID: 880-12215-A-1-D MS

Matrix: Solid

Analysis Batch: 21273

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 21140

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00198	U	0.0996	0.09736		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00397	U	0.199	0.2021		mg/Kg		101	70 - 130
o-Xylene	<0.00198	U	0.0996	0.09834		mg/Kg		99	70 - 130

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

Lab Sample ID: 880-12215-A-1-E MSD

Matrix: Solid

Analysis Batch: 21273

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 21140

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0990	0.09953		mg/Kg		101	70 - 130	2	35
Toluene	<0.00198	U	0.0990	0.09910		mg/Kg		100	70 - 130	2	35
Ethylbenzene	<0.00198	U	0.0990	0.09916		mg/Kg		100	70 - 130	2	35
m-Xylene & p-Xylene	<0.00397	U	0.198	0.2084		mg/Kg		105	70 - 130	3	35
o-Xylene	<0.00198	U	0.0990	0.1013		mg/Kg		102	70 - 130	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-21235/1-A

Matrix: Solid

Analysis Batch: 21319

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			03/10/22 08:42	1

Lab Sample ID: LCS 880-21235/2-A

Matrix: Solid

Analysis Batch: 21319

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	252.8		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-21235/3-A

Matrix: Solid

Analysis Batch: 21319

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	251.3		mg/Kg		101	90 - 110	1	20

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## QC Sample Results

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

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

Lab Sample ID: 880-12261-B-3-D MS

Matrix: Solid

Analysis Batch: 21319

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	<4.95	U F1	248	283.8	F1	mg/Kg		113	90 - 110

Lab Sample ID: 880-12261-B-3-E MSD

Matrix: Solid

Analysis Batch: 21319

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	<4.95	U F1	248	287.0	F1	mg/Kg		114	90 - 110	1	20

## QC Association Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

## GC VOA

## Prep Batch: 21140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2058-1	BH03	Total/NA	Solid	5035	
MB 880-21140/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21140/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21140/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12215-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-12215-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 21273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2058-1	BH03	Total/NA	Solid	8021B	21140
MB 880-21140/5-A	Method Blank	Total/NA	Solid	8021B	21140
LCS 880-21140/1-A	Lab Control Sample	Total/NA	Solid	8021B	21140
LCSD 880-21140/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21140
880-12215-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	21140
880-12215-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21140

## Analysis Batch: 21338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2058-1	BH03	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 21230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2058-1	BH03	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 21302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2058-1	BH03	Total/NA	Solid	8015B NM	21230

## Analysis Batch: 21385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2058-1	BH03	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 21235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2058-1	BH03	Soluble	Solid	DI Leach	
MB 880-21235/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-21235/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-21235/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12261-B-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-12261-B-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 21319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2058-1	BH03	Soluble	Solid	300.0	21235
MB 880-21235/1-A	Method Blank	Soluble	Solid	300.0	21235
LCS 880-21235/2-A	Lab Control Sample	Soluble	Solid	300.0	21235
LCSD 880-21235/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	21235
880-12261-B-3-D MS	Matrix Spike	Soluble	Solid	300.0	21235

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QC Association Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

HPLC/IC (Continued)

Analysis Batch: 21319 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12261-B-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	21235

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

Lab Chronicle

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

Client Sample ID: BH03

Lab Sample ID: 890-2058-1

Date Collected: 03/09/22 09:30

Matrix: Solid

Date Received: 03/09/22 10:41

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	21140	03/10/22 07:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21273	03/10/22 14:28	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21338	03/10/22 16:29	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21385	03/11/22 10:24	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	21230	03/10/22 14:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21302	03/11/22 02:22	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	21235	03/10/22 12:30	SC	XEN MID
Soluble	Analysis	300.0		10			21319	03/10/22 18:17	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: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

Laboratory: Eurofins Midland

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

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

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

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

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



## Method Summary

Client: WSP USA Inc.  
Project/Site: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

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: Queenie 15 Federal #001H

Job ID: 890-2058-1  
SDG: 31403152.0169

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2058-1	BH03	Solid	03/09/22 09:30	03/09/22 10:41	3

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



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  
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)  
Jobbs, NM (575-392-7550)

Work Order No: \_\_\_\_\_

Page 1 of 1


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3/11/2022

## Chain of Custody

Project Manager:	Joseph Hernandez	Bill to: (if different)	
Company Name:	WSP Permian office	Company Name:	
Address:	3300 North A Street Building 1, Unit 222	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM, 88220
Phone:	(432) 704-5178	Email:	Elliot.Lee@wsp.com, Joseph.Hernandez@wsp.com, Travis.Casey@wsp.com

<b>Work Order Comments</b>	
<b>Program:</b> UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Growfields <input type="checkbox"/> RC <input type="checkbox"/> \$perfund <input type="checkbox"/> <b>State of Project:</b> Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	Queenie 15 Federal # 001H	Turn Around	<b>ANALYSIS REQUEST</b>	<b>Work Order Notes</b>  Incident # NAPP2201862045  WBS: C1.22.00191
Project Number:	31403152.016	Routine <input type="checkbox"/>		
P.O. Number:		Rush: <u>24HR</u>		
Sampler's Name:	Elliot Lee / Travis Casey	Due Date:		
<b>SAMPLE RECEIPT</b>	Temp Blank: <input checked="" type="radio"/> Yes <input type="radio"/> No	Wet Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No		
Temperature (°C):	<u>1.0/D.8</u>	Thermometer ID		
Received Inact:	<input checked="" type="radio"/> Yes <input type="radio"/> No	<u>1NW-007</u>		
Cooler Custody Seals:	Yes <input type="radio"/> No <input checked="" type="radio"/> N/A	Correction Factor:	<u>-0.2</u>	
Sample Custody Seals:	Yes <input type="radio"/> No <input checked="" type="radio"/> N/A	Total Containers:		
Number of Containers				
EPA 8015)				
EPA 0=8021)				
e (EPA 300.0)				
890-2056 Chain of Custody				
TAT starts the day received by the lab, if received by 4:30pm				

[illegible]

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

[illegible]

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	[Signature]	[Signature]	3-9-22 1041	2		
3				4		
				6		
5						

## Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-2058-1

SDG Number: 31403152.0169

Login Number: 2058

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: 890-2058-1

SDG Number: 31403152.0169

Login Number: 2058

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 03/10/22 11:27 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 93097

**CONDITIONS**

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 93097
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
jnobui	Deferral Request Approved. Going forward, please complete delineation prior to requesting a deferral. OCD needs to establish what is being deferred. BH-01 was not vertically delineated at 3' with TPH G/D at 1,606 mg/kg >1,000 criteria. Site has a prior deferral request approved, so OCD will approve nAPP2201862045.	5/3/2022