

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	nAPP2110325623
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 msanjari@marathonoil.com	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: 4/12/2021	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) 57	Volume Recovered (bbls) 50
	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

TMS miscommunication resulted in a produced water tank overflow into the earthen containment. The source was isolated, all standing fluids were immediately recovered and the removal of impacted gravel within the containment has been scheduled.

Incident ID	nAPP2110325623
District RP	
Facility ID	
Application ID	

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 first thing 4/12/2021	

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: 4/13/2021
email: <u>msanjari@marathonoil.com</u>	Telephone: <u>575-988-8753</u>
<u>OCD Only</u>	
Received by: _____	Date: _____



Spill Calculation Tool

Standing Liquid Inputs:

	Length (ft.)	Width (ft.)	Avg. Liquid Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Rectangle Area #1					0.00	0.00	0.00
Rectangle Area #2					0.00	0.00	0.00
Rectangle Area #3					0.00	0.00	0.00
Rectangle Area #4					0.00	0.00	0.00
Rectangle Area #5					0.00	0.00	0.00
Rectangle Area #6					0.00	0.00	0.00
Tank Displacement					0.00	0.00	0.00
Tank Displacement					0.00	0.00	0.00
Liquid Volume:					0.00	0.00	0.00

Saturated Soil Inputs:

Soil Type: Gravel Loam

	Length (ft.)	Width (ft.)	Avg. Saturated Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Rectangle Area #1	90	30	1.25	0%	7.01	7.01	0.00
Rectangle Area #2				0%	0.00	0.00	0.00
Rectangle Area #3				0%	0.00	0.00	0.00
Rectangle Area #4				0%	0.00	0.00	0.00
Rectangle Area #5				0%	0.00	0.00	0.00
Rectangle Area #6				0%	0.00	0.00	0.00
Rectangle Area #7					0.00	0.00	0.00
Rectangle Area #8					0.00	0.00	0.00
Saturated Volume					7.01	7.01	0.00

Volume Recovered and not included in Standing Liquid Inputs:

% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
	50.00		

	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Total Spill Volume (bbls):	57.01	7.01	0.00

Company MARATHON

Location/Lease QUEENIE IS FEDERAL 1H

Disposal/Ticket # B6 EDDY 4052

Water Station _____ Ticket # _____

Top Gage _____ Bottom Gage _____

Truck No. _____

START TIME 4:00 AM END TIME 7:00 AM TOTAL HOURS 3

☐ Fresh water _____ Barrels

☐ Brine water _____ Barrels

☒ Produced water 50 Barrels

☐ Other _____ Barrels

☐ KCL _____ Barrels

Job Description
COLLECTION SPILLED PRODUCT
WATER 50 BBLs

Time leaving yard ☐ AM ☐ PM

Time arriving location ☐ AM ☐ PM

Time leaving location ☐ AM ☐ PM

Time arriving disposal/water st. ☐ AM ☐ PM

Time leaving disposal/water st. ☐ AM ☐ PM

Time arriving yard ☐ AM ☐ PM

Driver Name CHRIS SARTOR

Co-Personnel _____

X

Incident ID	nAPP2110325623
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

Page 4

Incident ID	nAPP2110325623
District RP	
Facility ID	
Application ID	

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

Printed Name: Melodie Sanjari Title: Environmental Professional
Signature: Melodie Sanjari Date: 6/8/2021
email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2110325623
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Melodie Sanjari Title: Environmental Professional
Signature: Melodie Sanjari Date: 6/8/2021
email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Chad Hensley Date: 08/10/2021

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

Signature: Chad Hensley Date: 08/10/2021



WSP USA

508 West Stevens Street
Carlsbad, NM 88220
575.887.0101

June 8, 2021

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

**RE: Deferral Request
Queenie 15 Federal #001H
Incident Number nAPP2110325623
Eddy County, New Mexico**

To Whom it May Concern:

WSP USA Inc. (WSP), on behalf of Marathon Oil Permian, LLC. (Marathon), presents the following Deferral Request detailing site assessment and soil sampling activities at the Queenie 15 Federal #001H (Site) 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 assess for the presence or absence of impacts to soil resulting from a release of produced water within earthen containment at the Site. Based on field observations, field screening activities, and laboratory analytical results from soil sampling activities, Marathon is submitting this Deferral Request describing site assessment and delineation activities that have occurred and requesting deferral of final remediation for Incident Number nAPP2110325623 until the equipment in the affected area is removed during other operations, or when the well or facility is plugged or abandoned, whichever comes first.

RELEASE BACKGROUND

On April 12, 2021, TMS¹ miscommunication resulted in the release of 57 barrels (bbls) of produced water into the tank battery earthen containment. The source of the release was immediately isolated. Approximately 50 bbls of produced water were recovered via hydrovac. Marathon reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Form C-141 on April 13, 2021 and was assigned Incident Number nAPP2110325623. Following the subsequent notification to the NMOCD and recovery of the release, Marathon removed saturated pea gravel within the earthen containment to the maximum extent practicable (MEP) without compromising the existing storage tanks and associated flow pipes and equipment.

¹ Scheduling management system software utilized to control the transport of fluids from tank batteries to appropriate endpoint location.



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 below ground surface (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 to 400 feet bgs.

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 DELINEATION SOIL SAMPLING ACTIVITIES

On April 20, 2021, WSP personnel visited the Site to conduct delineation 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 remained within the tank battery earthen containment. A total of eight delineation boreholes (BH01 through BH08) were attempted utilizing a hand auger within and surrounding the release extent to assess for the presence or absence of impacted soil. During delineation activities, refusal was encountered at a competent, dense caliche stratum at approximately 0.5 feet to 1-foot bgs. Soil from the boreholes were field screened at approximately 0.5-foot intervals for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. For delineation boreholes (BH01 through BH08) one soil sample was collected from the soil interval with the highest field screening (0.5-foot bgs). For delineation boreholes (BH05, BH07 and BH08) one sample was collected from the terminus of the borehole soil sample (1-foot bgs). The 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 shipped 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 following EPA Method 8015M/D; and chloride following EPA Method 300.0. Field screening results and observations for each borehole were recorded on a lithologic/soil sampling log and are presented in Attachment 1. Photographic documentation from delineation activities is included in Attachment 2.

Based on the lithology observed at the Site, an alternative method of delineation appeared warranted to continue vertical soil sampling collection of second depth samples for boreholes BH01 through BH04 and BH06.

On May 13, 2021, WSP utilized a Shaw Tool, Ltd Portable Core Drill was utilized to further advance five delineation boreholes (BH01 through BH04, and BH06) to complete horizontal and vertical definition of impacted soil associated with the subject release. Due to the location of the release, a Hot Work Permit was necessary to conduct investigative motor or electric powered drilling methods within 35 feet of any hydrocarbon sources. In coordination with Marathon, a Marathon safety representative was retained to conduct air monitoring as part of the permit process for investigative core drilling activities. The boreholes were advanced to depths ranging from approximately 1-foot to 2 feet bgs. Soil from the boreholes was field screened, at minimum, every 1-foot interval for volatile aromatic hydrocarbons and chloride. Soil samples were collected, handled, and analyzed as previously described. Field screening results and observations for each borehole were recorded on lithologic/soil sampling logs which are included in Attachment 1. Photographic documentation from core drilling activities is included in Attachment 2.



LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the delineation soil samples collected from borehole BH01 through BH04 indicated TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria in soil at approximately 0.5 feet bgs. Laboratory analytical results for delineation soil samples collected from borehole BH01 through BH04 collected at approximately 2 feet bgs indicated benzene, BTEX, TPH GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and confirms vertical delineation within the subject release area. Laboratory analytical results for delineation soil samples collected from boreholes BH05 through BH08 (all located outside of the secondary earthen containment area) at approximately 0.5 foot and 1-foot bgs indicated benzene, BTEX, TPH GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and confirm immediate horizontal definition. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 3.

DEFERRAL REQUEST

Based on the data collected from the final delineation soil samples and further review of the receptors that affect the Closure Criteria at this Site, Marathon requests to leave shallow residual TPH-GRO/TPH-DRO, and TPH impacts in place within the earthen containment and continue remediation of the remaining impacted soil during any future major construction or final abandonment. Approximately 173 cubic yards of impacted soil remains in place at the Site, assuming a maximum depth of 2 feet bgs as determined by delineation samples (BH01 through BH04) collected within the release. The deferral is equally protective of public health and environment for the following reasons:

- Removal of shallow subsurface caliche within the earthen containment is not a practical or safe method of remediation due to the location of the release where further remediation would potentially cause a major facility deconstruction.
- The residual hydrocarbon concentrations are restricted to the upper portions of an indurated caliche. The lithologic properties of this rock suggest little pore space interconnectivity, fracturing, and/or voids. Based on the laboratory analytical data associated with BH01 through BH04, the residual hydrocarbon concentrations exist above 2 feet bgs only.
- TPH-impacted soil will be covered by new imported pea gravel, reducing potential exposure to wildlife and workers, while also allowing for natural attenuation through volatilization.

Due to the presence of an indurated caliche within the release footprint, safety restrictions prevent the ability to remove all impacted soil associated with TPH-GRO/TPH-DRO and TPH

District II
Page 5

exceedances. Any remaining TPH-GRO/TPH-DRO, and TPH concentrations identified within the vicinity of boreholes BH01 through BH04 (all located within secondary earthen containment) are equally protective of public health, environment, and protectable groundwater based on the depth of the identified hydrocarbon concentrations, limited pathway to any potential surface or subsurface receptors, and decreasing concentrations. As such, Marathon responsibly requests No Further Action associated with Incident Number nAPP2110325623 until the equipment in the affected area is removed during other operations, or when the well or facility is plugged or abandoned, whichever comes first.

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

Sincerely,

WSP USA Inc.

A handwritten signature in black ink, appearing to read 'Fatima Smith'.

Fatima Smith
Associate Consultant, Geologist

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

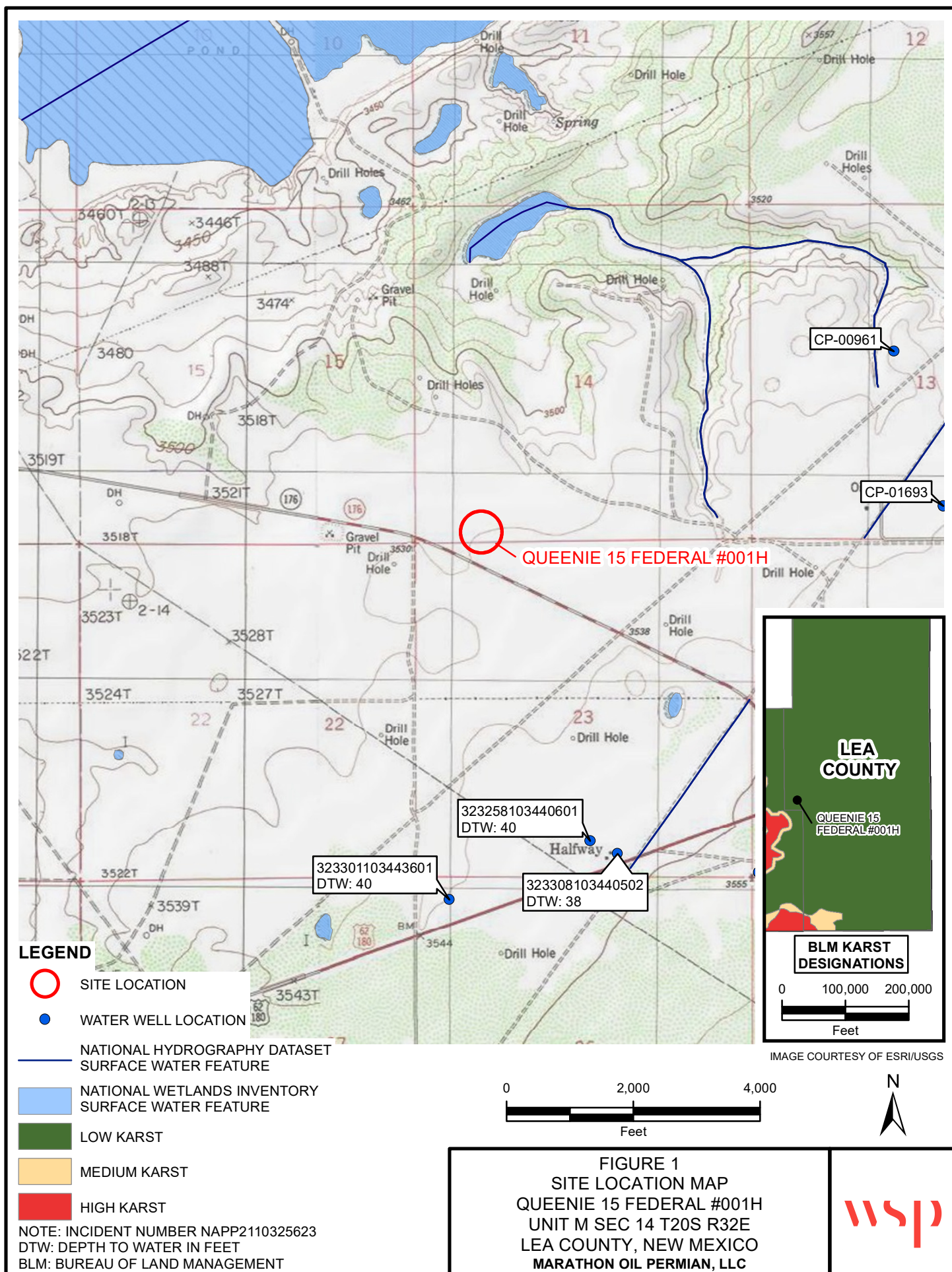
Daniel R. Moir, P.G.
Lead Consultant, Geologist

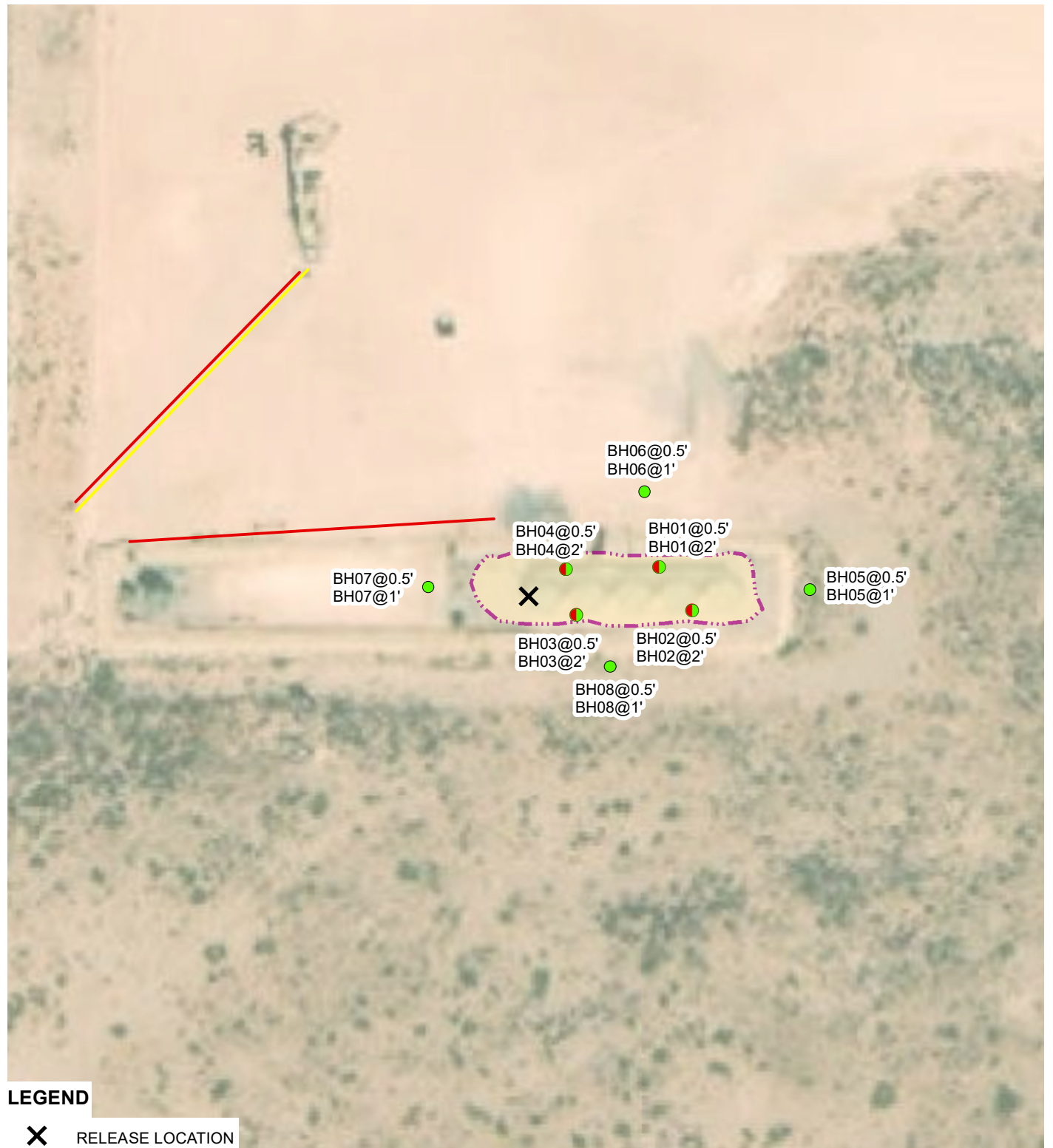
cc: Melodie Sanjari, Marathon
Bureau of Land Management

Attachments:

Figure 1 Site Location Map
Figure 2 Delineation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Lithologic/Sampling Log
Attachment 2 Photographic Log
Attachment 3 Laboratory Analytical Reports

FIGURES



**LEGEND**

RELEASE LOCATION

DELINEATION SOIL SAMPLE WITH CONCENTRATIONS
PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIADELINEATION SOIL SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIA

ELECTRIC LINE



GAS LINE



RELEASE EXTENT

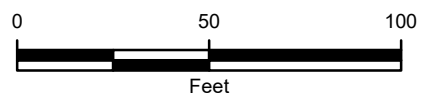
NOTE: INCIDENT NUMBER NAPP2110325623
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI



FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
 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 NAPP2110325623
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	04/20/2021	0.5	<0.00200	0.0621	3,550	392	636	3,942	4,580	3,280
BH01	05/13/2021	2	<0.00198	<0.00396	240	<49.8	<49.8	240	240	1,400
BH02	04/20/2021	0.5	<0.00202	0.00542	4,930	86.5	846	5,017	5,860	5,700
BH02	05/13/2021	2	<0.00202	<0.00403	245	<49.8	<49.8	245	245	4,740
BH03	04/20/2021	0.5	<0.00200	0.140	4,070	551	817	4,621	5,440	1,980
BH03	05/13/2021	2	<0.00202	<0.00404	116	<49.9	<49.9	116	116	3,470
BH04	04/20/2021	0.5	0.00354	0.378	2,330	924	382	3,254	3,640	892
BH04	05/13/2021	2	<0.00200	<0.00399	428	<49.9	<49.9	428	428	7,160
BH05	04/20/2021	0.5	<0.00202	0.0434	<49.9	<49.9	<49.9	<49.9	<49.9	18.8
BH05	04/20/2021	1	<0.00198	<0.00396	<49.8	<49.8	<49.8	<49.8	<49.8	23.0
BH06	04/20/2021	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	64.1
BH06	05/13/2021	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	39.3

Table 1

Soil Analytical Results
Queenie 15 Federal #001H
Incident Number NAPP2110325623
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	04/20/2021	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	356
BH07	04/20/2021	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	8.80
BH08	04/20/2021	0.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	271
BH08	04/20/2021	1	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	21.6

Notes:

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code


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


NE - Not Established


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


Greyed data represents samples that were excavated


ATTACHMENT 1: LITHOLOGIC/SOIL SAMPLING LOG


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220				BH or PH Name: BH01		Date: 04/20 - 05/13/2021		
				Site Name: Queenie 15 Federal #001H				
				RP or Incident Number: nAPP2110325623				
				WSP Job Number: 31403152.001				
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.566066, -103.742501				Field Screening: Hach chloride strips, PID		Hole Diameter: 2 inches		
						Total Depth: 2 feet bgs		
Comments: All chloride field screenings include a 40% correction factor M-moist; D-dry; Y-yes; N-no								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M			Y			0	CCHE	0-2' CALICHE, dry, tan, moderate - well consolidation, some gravel (0.5 - 3mm), trace sand, poorly graded, moderate dark brown staining, moderate H/C odor
M	2,475	340.7	Y	BH01	0.5	1		
M	2,139	83.7	Y		1.5			
M	1,327	22.2	Y	BH01	2	2		
TD @ 2 feet bgs								


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					BH or PH Name: BH02		Date: 04/20 - 05/13/2021		
					Site Name: Queenie 15 Federal #001H				
					RP or Incident Number: nAPP2110325623				
					WSP Job Number: 31403152.001				
LITHOLOGIC / SOIL SAMPLING LOG									
Lat/Long: 32.566024, -103.742464				Field Screening: Hach chloride strips, PID		Logged By: FS, WM, JH		Method: Hand Auger and Core-Drill	
						Hole Diameter: 2 inches		Total Depth: 2 feet bgs	
Comments: All chloride field screenings include a 40% correction factor M-moist; D-dry; Y-yes; N-no									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	
M			Y			0	CCHE	0-2' CALICHE, moist, tan-light brown, moderate - well consolidation, some gravel (0.5-3mm), trace sand, poorly graded, moderate dark brown staining, moderate H/C odor	
M	10,819	73.0	Y	BH02	0.5	1			
M	1,761	16.5	N		1	1			
M	4,928	9.4	N	BH02	2	2			
TD @ 2 feet bgs									


 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					BH or PH Name: BH03		Date: 04/20 - 05/13/2021		
					Site Name: Queenie 15 Federal #001H				
					RP or Incident Number: nAPP2110325623				
					WSP Job Number: 31403152.001				
LITHOLOGIC / SOIL SAMPLING LOG									
Lat/Long: 32.566020, -103.742596				Field Screening: Hach chloride strips, PID		Logged By: FS, WM, JH		Method: Hand Auger and Core-Drill	
						Hole Diameter: 2 inches		Total Depth: 2 feet bgs	
Comments: All chloride field screenings include a 40% correction factor M-moist; D-dry; Y-yes; N-no									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	
M			Y			0	CCHE	0-2' CALICHE, moist, tan-light brown, moderate - well consolidation, some gravel (0.5-3mm), trace sand, poorly graded, moderate dark brown staining, moderate H/C odor	
M	1,450	744.7	Y	BH03	0.5	1			
M	1,836	25.0	N		1	1			
M	1,125	8.8	N	BH03	2	2			
TD @ 2 feet bgs									

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					BH or PH Name: BH04		Date: 04/20 - 05/13/2021	
					Site Name: Queenie 15 Federal #001H			
					RP or Incident Number: nAPP2110325623			
					WSP Job Number: 31403152.001			
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.566065, -103.742607			Field Screening: Hach chloride strips, PID		Logged By: FS, WM, JH		Method: Hand Auger and Core-Drill	
					Hole Diameter: 2 inches		Total Depth: 2 feet bgs	
Comments: All chloride field screenings include a 40% correction factor M-moist; D-dry; Y-yes; N-no								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M			Y			0	CCHE	0-2' CALICHE, moist, tan-light brown, moderate - well consolidation, some gravel (0.5-3mm), trace sand, poorly graded, moderate dark brown staining, moderate H/C odor
M	1,663	561.2	Y	BH04	0.5			
M	1,956	3.8	N		1	1		
M	1,299	8.9	N	BH04	2	2		
TD @ 2 feet bgs								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					BH or PH Name: BH05		Date: 04/20/2021	
					Site Name: Queenie 15 Federal #001H			
					RP or Incident Number: nAPP2110325623			
					WSP Job Number: 31403152.001			
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.566044, -103.742329			Field Screening: Hach chloride strips, PID		Hole Diameter: 2 inches		Total Depth: 1-foot bgs	
Comments: All chloride field screenings include a 40% correction factor M-moist; D-dry; Y-yes; N-no								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			0	SP	0-1' SAND, dry, light brown-brown, poorly graded, fine-very fine grain, some caliche gravel (0.5-3mm), moderately consolidated
D	<156	0.2	N	BH05	0.5			
D	<156	0.7	N	BH05	1	1		no stain, no odor
TD @ 1-foot bgs								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					BH or PH Name: BH06		Date: 04/20 - 05/13/2021	
					Site Name: Queenie 15 Federal #001H			
					RP or Incident Number: nAPP2110325623			
					WSP Job Number: 31403152.001			
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.566139, -103.742518			Field Screening: Hach chloride strips, PID		Logged By: FS, WM, JH		Method: Hand Auger and Core-Drill	
					Hole Diameter: 2 inches		Total Depth: 1-foot bgs	
Comments: All chloride field screenings include a 40% correction factor M-moist; D-dry; Y-yes; N-no								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			0	CCHE	0-1' CALICHE, dry, tan-off white, moderate - well consolidation
D	<156	1.5	N	BH06	0.5			no stain, no odor
D	<168	0.1	N	BH06	1	1		
TD @ 1-foot bgs								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					BH or PH Name: BH07		Date: 04/20/2021	
					Site Name: Queenie 15 Federal #001H			
					RP or Incident Number: nAPP2110325623			
					WSP Job Number: 31403152.001			
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.566048, -103.742764			Field Screening: Hach chloride strips, PID		Hole Diameter: 2 inches		Method: Hand Auger and Core-Drill	
Comments: All chloride field screenings include a 40% correction factor M-moist; D-dry; Y-yes; N-no								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			0	GP	0-1' CALICHE GRAVEL, dry, tan-light brown, moderate - well consolidation, poorly graded, no stain, no odor
D	476	0.0	N	BH07	0.5			
D	336	0.0	N	BH07	1	1		
TD @ 1-foot bgs								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					BH or PH Name: BH08		Date: 04/20/2021	
					Site Name: Queenie 15 Federal #001H			
					RP or Incident Number: nAPP2110325623			
					WSP Job Number: 31403152.001			
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.565970, -103.742557			Field Screening: Hach chloride strips, PID		Logged By: FS, WM, JH		Method: Hand Auger and Core-Drill	
					Hole Diameter: 2 inches		Total Depth: 1-foot bgs	
Comments: All chloride field screenings include a 40% correction factor M-moist; D-dry; Y-yes; N-no								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			0	SP	0-1' SAND, dry, light brown-brown, poorly graded, fine-very fine grain, some caliche gravel (0.5-3mm), moderately consolidated
D	<156	0.1	N	BH08	0.5			
D	<156	0.4	N	BH08	1	1		no stain, no odor
TD @ 1-foot bgs								

ATTACHMENT 2: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG

Marathon Oil Permian, LLC.	Queenie 15 Federal #001H Lea County, NM	31403152.001
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Photo No.	Date	
1	April 20, 2021	
East view during delineation activities via hand auger.		 A photograph showing an oil field site. In the background, there is a large, cylindrical metal storage tank with a staircase leading up to it. The ground is dry and dusty. In the foreground, there is a hand auger stuck into the ground, and some other equipment is visible.

Photo No.	Date	
2	April 20, 2021	
West view during delineation activities via hand auger.		 A photograph showing a different view of the oil field site. In the foreground, there are several large, cylindrical metal storage tanks. A hand auger is stuck into the ground. In the background, there are more tanks and a clear sky.



PHOTOGRAPHIC LOG

Marathon Oil Permian, LLC.	Queenie 15 Federal #001H Lea County, NM	31403152.001
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Photo No.	Date	
3	May 13, 2021	
East view during delineation activities via core drill.		

Photo No.	Date	
4	May 13, 2021	
West view during delineation activities via core drill.		

ATTACHMENT 3: LABORATORY ANALYTICAL RESULTS



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-549-1

Laboratory Sample Delivery Group: 31403152.001

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:
4/26/2021 12:35:48 PM

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

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www.eurofinsus.com/Env

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

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

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

Laboratory Job ID: 890-549-1
SDG: 31403152.001

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	20

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

Definitions/Glossary

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

Job ID: 890-549-1
SDG: 31403152.001

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Eurofins Xenco, Carlsbad

Case Narrative

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

Job ID: 890-549-1
SDG: 31403152.001

Job ID: 890-549-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-549-1

Comments

No additional comments.

Receipt

The samples were received on 4/20/2021 4:34 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 was 2.0° C.

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: BH01 (890-549-1), BH02 (890-549-2), BH03 (890-549-3) and BH04 (890-549-4).

GC VOA

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

GC Semi VOA

Method 8015B NM: The laboratory control sample (LCS) for preparation batch 880-2116 and analytical batch 880-2138 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10>. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

General Chemistry

Method 300.0: The matrix spike (MS) recoveries for preparation batch 880-2236 and analytical batch 880-2237 were outside control limits. Non-homogeneity is 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.

Organic Prep

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

VOA Prep

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

Client Sample Results

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

Job ID: 890-549-1
SDG: 31403152.001

Client Sample ID: BH01

Lab Sample ID: 890-549-1

Date Collected: 04/20/21 08:50

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 15:46	1
Toluene	0.00460		0.00200		mg/Kg		04/22/21 10:00	04/22/21 15:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 15:46	1
m-Xylene & p-Xylene	0.0498		0.00400		mg/Kg		04/22/21 10:00	04/22/21 15:46	1
o-Xylene	0.00766		0.00200		mg/Kg		04/22/21 10:00	04/22/21 15:46	1
Xylenes, Total	0.0575		0.00400		mg/Kg		04/22/21 10:00	04/22/21 15:46	1
Total BTEX	0.0621		0.00400		mg/Kg		04/22/21 10:00	04/22/21 15:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	04/22/21 10:00	04/22/21 15:46	1
1,4-Difluorobenzene (Surr)	112		70 - 130	04/22/21 10:00	04/22/21 15:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	392	*+	49.9		mg/Kg		04/21/21 16:46	04/22/21 20:24	1
Diesel Range Organics (Over C10-C28)	3550		49.9		mg/Kg		04/21/21 16:46	04/22/21 20:24	1
Oil Range Organics (Over C28-C36)	636		49.9		mg/Kg		04/21/21 16:46	04/22/21 20:24	1
Total TPH	4580		49.9		mg/Kg		04/21/21 16:46	04/22/21 20:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	04/21/21 16:46	04/22/21 20:24	1
o-Terphenyl	81		70 - 130	04/21/21 16:46	04/22/21 20:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3280		24.8		mg/Kg			04/23/21 02:28	5

Client Sample ID: BH02

Lab Sample ID: 890-549-2

Date Collected: 04/20/21 09:51

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		04/22/21 10:00	04/22/21 16:07	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/22/21 10:00	04/22/21 16:07	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/22/21 10:00	04/22/21 16:07	1
m-Xylene & p-Xylene	0.00542		0.00404		mg/Kg		04/22/21 10:00	04/22/21 16:07	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/22/21 10:00	04/22/21 16:07	1
Xylenes, Total	0.00542		0.00404		mg/Kg		04/22/21 10:00	04/22/21 16:07	1
Total BTEX	0.00542		0.00404		mg/Kg		04/22/21 10:00	04/22/21 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	04/22/21 10:00	04/22/21 16:07	1
1,4-Difluorobenzene (Surr)	114		70 - 130	04/22/21 10:00	04/22/21 16:07	1

Eurofins Xenco, Carlsbad

Client Sample Results

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

Job ID: 890-549-1
SDG: 31403152.001

Client Sample ID: BH02

Lab Sample ID: 890-549-2

Date Collected: 04/20/21 09:51

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	86.5	*+	49.9		mg/Kg		04/21/21 16:46	04/22/21 20:45	1
Diesel Range Organics (Over C10-C28)	4930		49.9		mg/Kg		04/21/21 16:46	04/22/21 20:45	1
Oil Range Organics (Over C28-C36)	846		49.9		mg/Kg		04/21/21 16:46	04/22/21 20:45	1
Total TPH	5860		49.9		mg/Kg		04/21/21 16:46	04/22/21 20:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130	04/21/21 16:46	04/22/21 20:45	1
o-Terphenyl	90		70 - 130	04/21/21 16:46	04/22/21 20:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5700		50.2		mg/Kg			04/23/21 16:03	10

Client Sample ID: BH03

Lab Sample ID: 890-549-3

Date Collected: 04/20/21 10:12

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 16:28	1
Toluene	0.00489		0.00200		mg/Kg		04/22/21 10:00	04/22/21 16:28	1
Ethylbenzene	0.00314		0.00200		mg/Kg		04/22/21 10:00	04/22/21 16:28	1
m-Xylene & p-Xylene	0.126		0.00401		mg/Kg		04/22/21 10:00	04/22/21 16:28	1
o-Xylene	0.00556		0.00200		mg/Kg		04/22/21 10:00	04/22/21 16:28	1
Xylenes, Total	0.132		0.00401		mg/Kg		04/22/21 10:00	04/22/21 16:28	1
Total BTEX	0.140		0.00401		mg/Kg		04/22/21 10:00	04/22/21 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	184	S1+	70 - 130	04/22/21 10:00	04/22/21 16:28	1
1,4-Difluorobenzene (Surr)	101		70 - 130	04/22/21 10:00	04/22/21 16:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	551	*+	50.0		mg/Kg		04/21/21 16:46	04/22/21 21:06	1
Diesel Range Organics (Over C10-C28)	4070		50.0		mg/Kg		04/21/21 16:46	04/22/21 21:06	1
Oil Range Organics (Over C28-C36)	817		50.0		mg/Kg		04/21/21 16:46	04/22/21 21:06	1
Total TPH	5440		50.0		mg/Kg		04/21/21 16:46	04/22/21 21:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	04/21/21 16:46	04/22/21 21:06	1
o-Terphenyl	80		70 - 130	04/21/21 16:46	04/22/21 21:06	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1980		24.9		mg/Kg			04/23/21 16:08	5

Eurofins Xenco, Carlsbad

Client Sample Results

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

Job ID: 890-549-1
SDG: 31403152.001

Client Sample ID: BH04

Lab Sample ID: 890-549-4

Date Collected: 04/20/21 10:40

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00354		0.00200		mg/Kg		04/22/21 10:00	04/22/21 16:48	1
Toluene	0.0640		0.00200		mg/Kg		04/22/21 10:00	04/22/21 16:48	1
Ethylbenzene	0.0267		0.00200		mg/Kg		04/22/21 10:00	04/22/21 16:48	1
m-Xylene & p-Xylene	0.224		0.00399		mg/Kg		04/22/21 10:00	04/22/21 16:48	1
o-Xylene	0.0599		0.00200		mg/Kg		04/22/21 10:00	04/22/21 16:48	1
Xylenes, Total	0.284		0.00399		mg/Kg		04/22/21 10:00	04/22/21 16:48	1
Total BTEX	0.378		0.00399		mg/Kg		04/22/21 10:00	04/22/21 16:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	304	S1+	70 - 130	04/22/21 10:00	04/22/21 16:48	1
1,4-Difluorobenzene (Surr)	121		70 - 130	04/22/21 10:00	04/22/21 16:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	924	*+	49.9		mg/Kg		04/21/21 16:46	04/22/21 21:27	1
Diesel Range Organics (Over C10-C28)	2330		49.9		mg/Kg		04/21/21 16:46	04/22/21 21:27	1
Oil Range Organics (Over C28-C36)	382		49.9		mg/Kg		04/21/21 16:46	04/22/21 21:27	1
Total TPH	3640		49.9		mg/Kg		04/21/21 16:46	04/22/21 21:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130	04/21/21 16:46	04/22/21 21:27	1
o-Terphenyl	92		70 - 130	04/21/21 16:46	04/22/21 21:27	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	892		4.96		mg/Kg			04/23/21 16:13	1

Eurofins Xenco, Carlsbad

Surrogate Summary

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

Job ID: 890-549-1
SDG: 31403152.001

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-549-1	BH01	127	112
890-549-2	BH02	98	114
890-549-3	BH03	184 S1+	101
890-549-4	BH04	304 S1+	121
LCS 880-2100/1-A	Lab Control Sample	94	112
LCSD 880-2100/2-A	Lab Control Sample Dup	90	102
MB 880-2100/5-A	Method Blank	112	100
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-549-1	BH01	102	81
890-549-2	BH02	119	90
890-549-3	BH03	108	80
890-549-4	BH04	127	92
LCS 880-2116/2-A	Lab Control Sample	110	91
LCSD 880-2116/3-A	Lab Control Sample Dup	107	88
MB 880-2116/1-A	Method Blank	107	99
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-549-1
SDG: 31403152.001

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-2100/5-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2100

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	04/22/21 10:00	04/22/21 13:41	1
1,4-Difluorobenzene (Surr)	100		70 - 130	04/22/21 10:00	04/22/21 13:41	1

Lab Sample ID: LCS 880-2100/1-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08422		mg/Kg		84	70 - 130
Toluene	0.100	0.1007		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.09893		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.1969		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09731		mg/Kg		97	70 - 130

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

Lab Sample ID: LCSD 880-2100/2-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08720		mg/Kg		87	70 - 130	3	35
Toluene	0.100	0.09383		mg/Kg		94	70 - 130	7	35
Ethylbenzene	0.100	0.09142		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1861		mg/Kg		93	70 - 130	6	35
o-Xylene	0.100	0.09027		mg/Kg		90	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-549-1
SDG: 31403152.001

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

Lab Sample ID: MB 880-2116/1-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Total TPH	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	04/21/21 16:46	04/22/21 12:04	1
o-Terphenyl	99		70 - 130	04/21/21 16:46	04/22/21 12:04	1

Lab Sample ID: LCS 880-2116/2-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1387	*+	mg/Kg		139	70 - 130
Diesel Range Organics (Over C10-C28)	1000	975.4		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: LCSD 880-2116/3-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2116

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1281		mg/Kg		128	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	936.8		mg/Kg		94	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	88		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2178/1-A

Matrix: Solid

Analysis Batch: 2181

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/22/21 23:56	1

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-549-1
SDG: 31403152.001

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-2178/2-A

Matrix: Solid

Analysis Batch: 2181

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	253.2		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-2178/3-A

Matrix: Solid

Analysis Batch: 2181

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	260.0		mg/Kg		104	90 - 110	3	20

Lab Sample ID: MB 880-2236/1-A

Matrix: Solid

Analysis Batch: 2237

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/23/21 15:32	1

Lab Sample ID: LCS 880-2236/2-A

Matrix: Solid

Analysis Batch: 2237

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	255.5		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-2236/3-A

Matrix: Solid

Analysis Batch: 2237

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	260.6		mg/Kg		104	90 - 110	2	20

QC Association Summary

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

Job ID: 890-549-1
SDG: 31403152.001

GC VOA

Prep Batch: 2100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-549-1	BH01	Total/NA	Solid	5035	
890-549-2	BH02	Total/NA	Solid	5035	
890-549-3	BH03	Total/NA	Solid	5035	
890-549-4	BH04	Total/NA	Solid	5035	
MB 880-2100/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-2100/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-2100/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 2135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-549-1	BH01	Total/NA	Solid	8021B	2100
890-549-2	BH02	Total/NA	Solid	8021B	2100
890-549-3	BH03	Total/NA	Solid	8021B	2100
890-549-4	BH04	Total/NA	Solid	8021B	2100
MB 880-2100/5-A	Method Blank	Total/NA	Solid	8021B	2100
LCS 880-2100/1-A	Lab Control Sample	Total/NA	Solid	8021B	2100
LCSD 880-2100/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	2100

GC Semi VOA

Prep Batch: 2116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-549-1	BH01	Total/NA	Solid	8015NM Prep	
890-549-2	BH02	Total/NA	Solid	8015NM Prep	
890-549-3	BH03	Total/NA	Solid	8015NM Prep	
890-549-4	BH04	Total/NA	Solid	8015NM Prep	
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 2138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-549-1	BH01	Total/NA	Solid	8015B NM	2116
890-549-2	BH02	Total/NA	Solid	8015B NM	2116
890-549-3	BH03	Total/NA	Solid	8015B NM	2116
890-549-4	BH04	Total/NA	Solid	8015B NM	2116
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015B NM	2116
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	2116
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	2116

HPLC/IC

Leach Batch: 2178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-549-1	BH01	Soluble	Solid	DI Leach	
MB 880-2178/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2178/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2178/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-549-1	BH01	Soluble	Solid	300.0	2178

Eurofins Xenco, Carlsbad

QC Association Summary

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

Job ID: 890-549-1
SDG: 31403152.001

HPLC/IC (Continued)

Analysis Batch: 2181 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-2178/1-A	Method Blank	Soluble	Solid	300.0	2178
LCS 880-2178/2-A	Lab Control Sample	Soluble	Solid	300.0	2178
LCSD 880-2178/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2178

Leach Batch: 2236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-549-2	BH02	Soluble	Solid	DI Leach	
890-549-3	BH03	Soluble	Solid	DI Leach	
890-549-4	BH04	Soluble	Solid	DI Leach	
MB 880-2236/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2236/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2236/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-549-2	BH02	Soluble	Solid	300.0	2236
890-549-3	BH03	Soluble	Solid	300.0	2236
890-549-4	BH04	Soluble	Solid	300.0	2236
MB 880-2236/1-A	Method Blank	Soluble	Solid	300.0	2236
LCS 880-2236/2-A	Lab Control Sample	Soluble	Solid	300.0	2236
LCSD 880-2236/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2236

Lab Chronicle

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

Job ID: 890-549-1
SDG: 31403152.001

Client Sample ID: BH01

Lab Sample ID: 890-549-1

Date Collected: 04/20/21 08:50

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2100	04/22/21 10:00	KL	XM
Total/NA	Analysis	8021B		1	2135	04/22/21 15:46	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 20:24	AJ	XM
Soluble	Leach	DI Leach			2178	04/22/21 17:45	CH	XM
Soluble	Analysis	300.0		5	2181	04/23/21 02:28	WP	XM

Client Sample ID: BH02

Lab Sample ID: 890-549-2

Date Collected: 04/20/21 09:51

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2100	04/22/21 10:00	KL	XM
Total/NA	Analysis	8021B		1	2135	04/22/21 16:07	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 20:45	AJ	XM
Soluble	Leach	DI Leach			2236	04/23/21 14:18	CH	XM
Soluble	Analysis	300.0		10	2237	04/23/21 16:03	WP	XM

Client Sample ID: BH03

Lab Sample ID: 890-549-3

Date Collected: 04/20/21 10:12

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2100	04/22/21 10:00	KL	XM
Total/NA	Analysis	8021B		1	2135	04/22/21 16:28	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 21:06	AJ	XM
Soluble	Leach	DI Leach			2236	04/23/21 14:18	CH	XM
Soluble	Analysis	300.0		5	2237	04/23/21 16:08	WP	XM

Client Sample ID: BH04

Lab Sample ID: 890-549-4

Date Collected: 04/20/21 10:40

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2100	04/22/21 10:00	KL	XM
Total/NA	Analysis	8021B		1	2135	04/22/21 16:48	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 21:27	AJ	XM
Soluble	Leach	DI Leach			2236	04/23/21 14:18	CH	XM
Soluble	Analysis	300.0		1	2237	04/23/21 16:13	WP	XM

Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

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

Job ID: 890-549-1
SDG: 31403152.001

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Method Summary

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

Job ID: 890-549-1
SDG: 31403152.001

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Eurofins Xenco, Carlsbad

Sample Summary

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

Job ID: 890-549-1
SDG: 31403152.001

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-549-1	BH01	Solid	04/20/21 08:50	04/20/21 16:34	- 0.5
890-549-2	BH02	Solid	04/20/21 09:51	04/20/21 16:34	- 0.5
890-549-3	BH03	Solid	04/20/21 10:12	04/20/21 16:34	- 0.5
890-549-4	BH04	Solid	04/20/21 10:40	04/20/21 16:34	- 0.5

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13
14

Work ORDER NOTES:
NAPP2110325623
WBS CL.21.01096



Environment Testing
Xenco

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

Chain of Custody

Work Order No.:

www.xenco.com Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	→
Company Name:	3300 North A Street	Company Name:	→
Address:	WSP USA	Address:	→
City, State ZIP:	Midland, TX 79705	City, State ZIP:	→
Phone:	(281) 702-2329	Email:	joseph.hernandez@wsp.com

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

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	TPH	BTE	Chlor	Sample Comments
BH01	S	4/26/21	0850	0.5'		1	X			
BH02	↓	↓	0951	↓		↓				
BH03	↓	↓	1012	↓		↓				
BH04	↓	↓	1040	↓		↓				
fact 01										

[illegible]

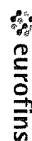
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>					
2 <i>[Signature]</i>	<i>[Signature]</i>	4/20/21 16:34			
3					
4					
5					
6					

Eurofins Xenco, Carlsbad

1089 N Canal St.
Carlsbad NM 88220

Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record



Environment Testing
America

Client Information (Sub Contract Lab)						
Sampler	Lab PM	Carrier Tracking No(s)	COCN No.	Page:	Job #:	
Client Contact	Kramer, Jessica	E-Mail	Jessica.kramer@eurofins.com	New Mexico	890-549-1	
Shipping/Receiving Company	Eurofins Xenco	Accreditations Required (See note)	NELAP - Texas	State of Origin:	Page 1 of 1	
Address:	Due Date Requested					
City: Midland State Zip TX, 79701 Phone 432-704-5440(Tel) Email Project Name: Queenie 15 Federal #001H Site SSOV#:	1211 W Florida Ave TAT Requested (days) 4/26/2021 PO # WO # Project #: 88000203 SSOV#:	Analysis Requested			Preservation Codes	
		A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Ammonia H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other:	M Hexane N None O AsNaOZ P NaZOAS Q NaZSOS R NaZSCOS S HZSO4 T-TSP Dodecylhydrate U Acetone W MCAA X pH 4-5 Y other (specify)			
Sample Identification - Client ID (Lab ID)		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 300_ORGFM_28D/DI_LEACH Chloride 8015MOD_NM/8015NM_S_Prep Full TPH 8021B/B6035FP_Calc BTEX			Total Number of containers	
BH01 (890-549-1)	4/20/21	08 50 Mountain	X	X	X	1
BH02 (890-549-2)	4/20/21	09 51 Mountain	X	X	X	1
BH03 (890-549-3)	4/20/21	10 12 Mountain	X	X	X	1
BH04 (890-549-4)	4/20/21	10 40 Mountain	X	X	X	1
Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method analyze & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/mark being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC						
Possible Hazard Identification	Unconfirmed					
Deliverable Requested I II, III IV Other (Specify)	Primary Deliverable Rank 2					
Empty Kit Relinquished by	Date/Time:	Date	Company	Received By	Date/Time:	Method of Shipment:
Relinquished by						
Relinquished by						
Relinquished by						
Custody Seals Intact	Custody Seal No	Cooler Temperature(s) ° C and Other Remarks.				

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-549-1

SDG Number: 31403152.001

Login Number: 549**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: 890-549-1
SDG Number: 31403152.001**Login Number: 549****List Number: 2****Creator: Copeland, Tatiana****List Source: Eurofins Midland****List Creation: 04/21/21 03:00 PM**

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-546-1

Laboratory Sample Delivery Group: Lea County NM

Client Project/Site: Queenie 15 Federal #001H - 31403152.001

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:
4/26/2021 8:27:46 AM

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

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

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

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Laboratory Job ID: 890-546-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	11
Lab Chronicle	12
Certification Summary	13
Method Summary	14
Sample Summary	15
Chain of Custody	16
Receipt Checklists	18

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Job ID: 890-546-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-546-1

Comments

No additional comments.

Receipt

The samples were received on 4/20/2021 4:34 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 was 2.0° C.

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: BH05 (890-546-1) and BH05 (890-546-2).

GC VOA

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

GC Semi VOA

Method 8015B NM: The laboratory control sample (LCS) for preparation batch 880-2116 and analytical batch 880-2138 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10>. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

General Chemistry

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

Organic Prep

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

VOA Prep

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Client Sample ID: BH05

Lab Sample ID: 890-546-1

Date Collected: 04/20/21 11:02

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		04/23/21 09:17	04/23/21 20:41	1
Toluene	0.00632		0.00202		mg/Kg		04/23/21 09:17	04/23/21 20:41	1
Ethylbenzene	0.00594		0.00202		mg/Kg		04/23/21 09:17	04/23/21 20:41	1
m-Xylene & p-Xylene	0.0199		0.00404		mg/Kg		04/23/21 09:17	04/23/21 20:41	1
o-Xylene	0.0112		0.00202		mg/Kg		04/23/21 09:17	04/23/21 20:41	1
Xylenes, Total	0.0311		0.00404		mg/Kg		04/23/21 09:17	04/23/21 20:41	1
Total BTEX	0.0434		0.00404		mg/Kg		04/23/21 09:17	04/23/21 20:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	04/23/21 09:17	04/23/21 20:41	1
1,4-Difluorobenzene (Surr)	106		70 - 130	04/23/21 09:17	04/23/21 20:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *	49.9		mg/Kg		04/21/21 16:46	04/22/21 15:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/21/21 16:46	04/22/21 15:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/21/21 16:46	04/22/21 15:27	1
Total TPH	<49.9	U	49.9		mg/Kg		04/21/21 16:46	04/22/21 15:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130	04/21/21 16:46	04/22/21 15:27	1
o-Terphenyl	102		70 - 130	04/21/21 16:46	04/22/21 15:27	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.8		5.02		mg/Kg			04/23/21 01:57	1

Client Sample ID: BH05

Lab Sample ID: 890-546-2

Date Collected: 04/20/21 11:10

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/23/21 09:17	04/23/21 21:01	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/23/21 09:17	04/23/21 21:01	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/23/21 09:17	04/23/21 21:01	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		04/23/21 09:17	04/23/21 21:01	1
o-Xylene	0.00202		0.00198		mg/Kg		04/23/21 09:17	04/23/21 21:01	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		04/23/21 09:17	04/23/21 21:01	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		04/23/21 09:17	04/23/21 21:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	04/23/21 09:17	04/23/21 21:01	1
1,4-Difluorobenzene (Surr)	104		70 - 130	04/23/21 09:17	04/23/21 21:01	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Client Sample ID: BH05

Lab Sample ID: 890-546-2

Date Collected: 04/20/21 11:10

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U **	49.8		mg/Kg		04/21/21 16:46	04/22/21 15:48	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/21/21 16:46	04/22/21 15:48	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/21/21 16:46	04/22/21 15:48	1
Total TPH	<49.8	U	49.8		mg/Kg		04/21/21 16:46	04/22/21 15:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	04/21/21 16:46	04/22/21 15:48	1
o-Terphenyl	90		70 - 130	04/21/21 16:46	04/22/21 15:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.0		5.04		mg/Kg			04/23/21 02:02	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-546-1	BH05	114	106
890-546-2	BH05	114	104
LCS 880-2186/1-A	Lab Control Sample	113	104
LCSD 880-2186/2-A	Lab Control Sample Dup	111	102
MB 880-2186/5-A	Method Blank	89	90
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-546-1	BH05	113	102
890-546-2	BH05	99	90
LCS 880-2116/2-A	Lab Control Sample	110	91
LCSD 880-2116/3-A	Lab Control Sample Dup	107	88
MB 880-2116/1-A	Method Blank	107	99
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-2186/5-A

Matrix: Solid

Analysis Batch: 2192

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2186

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/23/21 09:17	04/23/21 13:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/23/21 09:17	04/23/21 13:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/23/21 09:17	04/23/21 13:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/23/21 09:17	04/23/21 13:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/23/21 09:17	04/23/21 13:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/23/21 09:17	04/23/21 13:51	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/23/21 09:17	04/23/21 13:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	04/23/21 09:17	04/23/21 13:51	1
1,4-Difluorobenzene (Surr)	90		70 - 130	04/23/21 09:17	04/23/21 13:51	1

Lab Sample ID: LCS 880-2186/1-A

Matrix: Solid

Analysis Batch: 2192

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2186

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1042		mg/Kg		104	70 - 130
Toluene	0.100	0.09834		mg/Kg		98	70 - 130
Ethylbenzene	0.100	0.1032		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	0.200	0.2202		mg/Kg		110	70 - 130
o-Xylene	0.100	0.1102		mg/Kg		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-2186/2-A

Matrix: Solid

Analysis Batch: 2192

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2186

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1049		mg/Kg		105	70 - 130	1	35
Toluene	0.100	0.1007		mg/Kg		101	70 - 130	2	35
Ethylbenzene	0.100	0.1078		mg/Kg		108	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2299		mg/Kg		115	70 - 130	4	35
o-Xylene	0.100	0.1149		mg/Kg		115	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

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

Lab Sample ID: MB 880-2116/1-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Total TPH	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	04/21/21 16:46	04/22/21 12:04	1
o-Terphenyl	99		70 - 130	04/21/21 16:46	04/22/21 12:04	1

Lab Sample ID: LCS 880-2116/2-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1387	*+	mg/Kg		139	70 - 130
Diesel Range Organics (Over C10-C28)	1000	975.4		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: LCSD 880-2116/3-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2116

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1281		mg/Kg		128	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	936.8		mg/Kg		94	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	88		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2178/1-A

Matrix: Solid

Analysis Batch: 2181

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/22/21 23:56	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-2178/2-A

Matrix: Solid

Analysis Batch: 2181

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	253.2		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-2178/3-A

Matrix: Solid

Analysis Batch: 2181

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	260.0		mg/Kg		104	90 - 110	3	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

GC VOA

Prep Batch: 2186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-546-1	BH05	Total/NA	Solid	5035	
890-546-2	BH05	Total/NA	Solid	5035	
MB 880-2186/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-2186/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-2186/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 2192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-546-1	BH05	Total/NA	Solid	8021B	2186
890-546-2	BH05	Total/NA	Solid	8021B	2186
MB 880-2186/5-A	Method Blank	Total/NA	Solid	8021B	2186
LCS 880-2186/1-A	Lab Control Sample	Total/NA	Solid	8021B	2186
LCSD 880-2186/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	2186

GC Semi VOA

Prep Batch: 2116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-546-1	BH05	Total/NA	Solid	8015NM Prep	
890-546-2	BH05	Total/NA	Solid	8015NM Prep	
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 2138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-546-1	BH05	Total/NA	Solid	8015B NM	2116
890-546-2	BH05	Total/NA	Solid	8015B NM	2116
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015B NM	2116
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	2116
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	2116

HPLC/IC

Leach Batch: 2178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-546-1	BH05	Soluble	Solid	DI Leach	
890-546-2	BH05	Soluble	Solid	DI Leach	
MB 880-2178/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2178/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2178/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-546-1	BH05	Soluble	Solid	300.0	2178
890-546-2	BH05	Soluble	Solid	300.0	2178
MB 880-2178/1-A	Method Blank	Soluble	Solid	300.0	2178
LCS 880-2178/2-A	Lab Control Sample	Soluble	Solid	300.0	2178
LCSD 880-2178/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2178

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Client Sample ID: BH05

Lab Sample ID: 890-546-1

Date Collected: 04/20/21 11:02

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2186	04/23/21 09:17	KL	XM
Total/NA	Analysis	8021B		1	2192	04/23/21 20:41	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 15:27	AJ	XM
Soluble	Leach	DI Leach			2178	04/22/21 17:45	CH	XM
Soluble	Analysis	300.0		1	2181	04/23/21 01:57	WP	XM

Client Sample ID: BH05

Lab Sample ID: 890-546-2

Date Collected: 04/20/21 11:10

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2186	04/23/21 09:17	KL	XM
Total/NA	Analysis	8021B		1	2192	04/23/21 21:01	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 15:48	AJ	XM
Soluble	Leach	DI Leach			2178	04/22/21 17:45	CH	XM
Soluble	Analysis	300.0		1	2181	04/23/21 02:02	WP	XM

Laboratory References:

XM = Eurofins Xenco, 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 - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-546-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-546-1	BH05	Solid	04/20/21 11:02	04/20/21 16:34	- 0.5
890-546-2	BH05	Solid	04/20/21 11:10	04/20/21 16:34	- 1

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WORK ORDER NOTES
NAPP2110325623
WRS CL. 21.01096



Environment Testing
Xenoco

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

Chain of Custody

Work Order No.:

Page 1 of 1
www.xenco.com

Project Manager:	Joseph Hernandez	Bill To: (if different)	→
Company Name:	WSP USA	Company Name:	→
Address:	3300 North A Street	Address:	→
City, State Zip:	Midland, TX 79705	City, State Zip:	→
Phone:	(281) 702-2329	Email:	joseph.hernandez@wsp.com

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

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ # of Cont	TPH	BT	Chl	Sample Comments
BH05	G	4/26/21	1102	0.5'	1	X	X	X	
BH06	G	4/26/21	1110	1'	1				

Circle Method(s) and Metal(s) to be analyzed	200.8 / 6020:	200.7 / 6010
ICLP / SPIC 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn	8RCRA

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

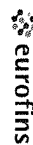
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	4-20-21 16:34			
1					
3					
			6		
5					

Eurofins Xenco, Carlsbad

1089 N Canal St.
Carlsbad NM 88220

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

Chain of Custody Record



Environment Testing America

Client Information (Sub Contract Lab)				Lab PM Kramer, Jessica		Carrier Tracking No(s)		COC No. 890-177 1																	
Client Contact: Shipping/Receiving				Phone:		E-Mail jessica.kramer@eurofins.com		State of Origin New Mexico		Page: Page 1 of 1															
Company Eurofins Xenco				Accreditations Required (See note): NELAP - Texas				Job #: 890-546-1																	
Address: 1211 W. Florida Ave City: Midland State: TX Zip: 79701 Phone: 432-704-5440(Tel) Email: Project Name: Queenie 15 Federal #001H - 31403152 001 Site: SSOW#:				Due Date Requested 4/26/2021 TAT Requested (days)		Analysis Requested		Preservation Codes																	
								A. HCL B. - NaOH C. Zn Acetate D. Nitric Acid E. NaHSO4 F. MeOH G. Amchlor H. Ascorbic Acid I. Ice J. DI Water K. EDTA L. EDA Other: M. Hexane N. None O. AsH2O2 P. Na2O4S Q. Na2SO3 R. Na2S2O3 S. H2SO4 T. TSP Dodecahydrate U. Acetone V. MCAA W. pH 4.5 Z. other (specify)																	
Sample Identification - Client ID (Lab ID)				Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=Water, S=Soil, O=Wash, A=Air)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		300_ORGFM_28D/DI_LEACH Chloride		8015MOD_NM/8015NM_S_Prep Full TPH		8021B/8035FP_Calc BTEX		Total Number of containers		Special Instructions/Note	
BH05 (890-546-1)				4/20/21		11 02 Mountain		Solid		Solid		X		X		X		X		X		1			
BH05 (890-546-2)				4/20/21		11 10 Mountain		Solid		Solid		X		X		X		X		X		1			

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-546-1

SDG Number: Lea County NM

Login Number: 546

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: 890-546-1

SDG Number: Lea County NM

Login Number: 546

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Midland

List Creation: 04/21/21 02:58 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-545-1

Laboratory Sample Delivery Group: Lea County NM

Client Project/Site: Queenie 15 Federal #001H - 31403152.001

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:
4/23/2021 3:23:41 PM

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

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

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

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Laboratory Job ID: 890-545-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	11
Lab Chronicle	12
Certification Summary	13
Method Summary	14
Sample Summary	15
Chain of Custody	16
Receipt Checklists	18

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

Job ID: 890-545-1

Laboratory: Eurofins Xenco, Carlsbad**Narrative****Job Narrative
890-545-1****Comments**

No additional comments.

Receipt

The sample was received on 4/20/2021 4:34 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.0° C.

GC VOA

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

GC Semi VOA

Method 8015B NM: The laboratory control sample (LCS) for preparation batch 880-2116 and analytical batch 880-2138 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10>. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

General Chemistry

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

Organic Prep

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

VOA Prep

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

Client Sample ID: BH06

Lab Sample ID: 890-545-1

Date Collected: 04/20/21 12:04

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 14:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 14:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 14:03	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/22/21 10:00	04/22/21 14:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 14:03	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/22/21 10:00	04/22/21 14:03	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		04/22/21 10:00	04/22/21 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	04/22/21 10:00	04/22/21 14:03	1
1,4-Difluorobenzene (Surr)	110		70 - 130	04/22/21 10:00	04/22/21 14:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+ F1	49.9		mg/Kg		04/21/21 16:46	04/22/21 14:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/21/21 16:46	04/22/21 14:25	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/21/21 16:46	04/22/21 14:25	1
Total TPH	<49.9	U	49.9		mg/Kg		04/21/21 16:46	04/22/21 14:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	04/21/21 16:46	04/22/21 14:25	1
o-Terphenyl	98		70 - 130	04/21/21 16:46	04/22/21 14:25	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64.1		5.01		mg/Kg			04/21/21 18:01	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-545-1	BH06	91	110
LCS 880-2100/1-A	Lab Control Sample	94	112
LCSD 880-2100/2-A	Lab Control Sample Dup	90	102
MB 880-2100/5-A	Method Blank	112	100
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-545-1 MS	BH06		
890-545-1 MSD	BH06		
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-545-1	BH06	105	98
890-545-1 MS	BH06	106	86
890-545-1 MSD	BH06	107	87
LCS 880-2116/2-A	Lab Control Sample	110	91
LCSD 880-2116/3-A	Lab Control Sample Dup	107	88
MB 880-2116/1-A	Method Blank	107	99
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-2100/5-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2100

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	04/22/21 10:00	04/22/21 13:41	1
1,4-Difluorobenzene (Surr)	100		70 - 130	04/22/21 10:00	04/22/21 13:41	1

Lab Sample ID: LCS 880-2100/1-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08422		mg/Kg		84	70 - 130
Toluene	0.100	0.1007		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.09893		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.1969		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09731		mg/Kg		97	70 - 130

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

Lab Sample ID: LCSD 880-2100/2-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.08720		mg/Kg		87	70 - 130	3	35
Toluene	0.100	0.09383		mg/Kg		94	70 - 130	7	35
Ethylbenzene	0.100	0.09142		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1861		mg/Kg		93	70 - 130	6	35
o-Xylene	0.100	0.09027		mg/Kg		90	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-545-1 MS

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: BH06

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.101	0.07448		mg/Kg			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

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

Lab Sample ID: 890-545-1 MS

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: BH06

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.101	0.07890		mg/Kg			
Ethylbenzene	<0.00200	U	0.101	0.07660		mg/Kg			
m-Xylene & p-Xylene	<0.00399	U	0.202	0.1551		mg/Kg			
o-Xylene	<0.00200	U	0.101	0.07556		mg/Kg			

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)			
1,4-Difluorobenzene (Surr)			

Lab Sample ID: 890-545-1 MSD

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: BH06

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.08121		mg/Kg					
Toluene	<0.00200	U	0.0994	0.08560		mg/Kg					
Ethylbenzene	<0.00200	U	0.0994	0.08466		mg/Kg					
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1666		mg/Kg					
o-Xylene	<0.00200	U	0.0994	0.08160		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)			
1,4-Difluorobenzene (Surr)			

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

Lab Sample ID: MB 880-2116/1-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Total TPH	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	04/21/21 16:46	04/22/21 12:04	1
o-Terphenyl	99		70 - 130	04/21/21 16:46	04/22/21 12:04	1

Lab Sample ID: LCS 880-2116/2-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1387	*+	mg/Kg		139	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

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

Lab Sample ID: LCS 880-2116/2-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2116

			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Diesel Range Organics (Over C10-C28)			1000	975.4		mg/Kg		98	70 - 130		
Surrogate	LCS	LCS									
	%Recovery	Qualifier	Limits								
1-Chlorooctane	110		70 - 130								
o-Terphenyl	91		70 - 130								

Lab Sample ID: LCSD 880-2116/3-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2116

Analyte			Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
			Added	Result	Qualifier				Limits		Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1281		mg/Kg		128	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	936.8		mg/Kg		94	70 - 130	4	20
				LCSD	LCSD						
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	107		70 - 130								
o-Terphenyl	88		70 - 130								

Lab Sample ID: 890-545-1 MS

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: BH06

Prep Type: Total/NA

Prep Batch: 2116

	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 *+ F1	998	1332		mg/Kg		129	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1004		mg/Kg		97	70 - 130		

Lab Sample ID: 890-545-1 MSD

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: BH06

Prep Type: Total/NA

Prep Batch: 2116

	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 *+ F1	998	1489	F1	mg/Kg		145	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1033		mg/Kg		100	70 - 130	3	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2096/1-A

Matrix: Solid

Analysis Batch: 2117

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/21/21 15:29	1

Lab Sample ID: LCS 880-2096/2-A

Matrix: Solid

Analysis Batch: 2117

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	253.2		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-2096/3-A

Matrix: Solid

Analysis Batch: 2117

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	259.0		mg/Kg		104	90 - 110	2	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

GC VOA

Prep Batch: 2100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-545-1	BH06	Total/NA	Solid	5035	
MB 880-2100/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-2100/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-2100/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-545-1 MS	BH06	Total/NA	Solid	5035	
890-545-1 MSD	BH06	Total/NA	Solid	5035	

Analysis Batch: 2135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-545-1	BH06	Total/NA	Solid	8021B	2100
MB 880-2100/5-A	Method Blank	Total/NA	Solid	8021B	2100
LCS 880-2100/1-A	Lab Control Sample	Total/NA	Solid	8021B	2100
LCSD 880-2100/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	2100
890-545-1 MS	BH06	Total/NA	Solid	8021B	2100
890-545-1 MSD	BH06	Total/NA	Solid	8021B	2100

GC Semi VOA

Prep Batch: 2116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-545-1	BH06	Total/NA	Solid	8015NM Prep	
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-545-1 MS	BH06	Total/NA	Solid	8015NM Prep	
890-545-1 MSD	BH06	Total/NA	Solid	8015NM Prep	

Analysis Batch: 2138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-545-1	BH06	Total/NA	Solid	8015B NM	2116
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015B NM	2116
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	2116
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	2116
890-545-1 MS	BH06	Total/NA	Solid	8015B NM	2116
890-545-1 MSD	BH06	Total/NA	Solid	8015B NM	2116

HPLC/IC

Leach Batch: 2096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-545-1	BH06	Soluble	Solid	DI Leach	
MB 880-2096/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2096/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2096/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-545-1	BH06	Soluble	Solid	300.0	2096
MB 880-2096/1-A	Method Blank	Soluble	Solid	300.0	2096
LCS 880-2096/2-A	Lab Control Sample	Soluble	Solid	300.0	2096
LCSD 880-2096/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2096

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

Client Sample ID: BH06 Lab Sample ID: 890-545-1
Date Collected: 04/20/21 12:04 Matrix: Solid
Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2100	04/22/21 10:00	KL	XM
Total/NA	Analysis	8021B		1	2135	04/22/21 14:03	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 14:25	AJ	XM
Soluble	Leach	DI Leach			2096	04/21/21 12:55	CH	XM
Soluble	Analysis	300.0		1	2117	04/21/21 18:01	CH	XM

Laboratory References:
XM = Eurofins Xenco, 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 - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

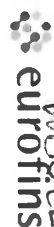
Sample Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-545-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-545-1	BH06	Solid	04/20/21 12:04	04/20/21 16:34	- 0.5

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



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Environment Testing

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

Chain of Custody

Work Order No:

www.xenco.com Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	→
Company Name:	WSP USA	Company Name:	→
Address:	3300 North A Street	Address:	→
City, State ZIP:	Midland, TX 79705	City, State ZIP:	→
Phone:	(291) 702-2329	Email:	joseph.hernandez@wsp.com

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

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	TP	BTE	Chl	Sample Comments
BH06	S	4/20/21	1204	0.5'		1	TP	BTE	Chl	
Not A										

Total 2007 / 6010	2008 / 6020:	
Circle Method(s) and Metal(s) to be analyzed	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zr
	TCLP / SPLP 6010 : 8RCRA 5b As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471

Force majeure or the occurrence of any event beyond the control of the sample purchaser (other than a client's company) to Eurofins Xerco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xerco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xerco. A minimum charge of \$35.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xerco, but not analyzed. These terms will be enforced unless previously agreed.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	<i>[Signature]</i>	<i>[Signature]</i>	7-20-21 1634			
3						
5						

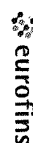
Eurofins Xenco, Carlsbad

1089 N Canal St.

Carlsbad NM 88220

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

Chain of Custody Record



Environment Testing America

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-545-1

SDG Number: Lea County NM

Login Number: 545

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: 890-545-1

SDG Number: Lea County NM

Login Number: 545

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Midland

List Creation: 04/21/21 02:58 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-547-1

Laboratory Sample Delivery Group: Lea County NM

Client Project/Site: Queenie 15 Federal #001H - 31403152.001

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:
4/23/2021 3:26:29 PM

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

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

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

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Laboratory Job ID: 890-547-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	11
Lab Chronicle	12
Certification Summary	13
Method Summary	14
Sample Summary	15
Chain of Custody	16
Receipt Checklists	18

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Job ID: 890-547-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-547-1****Receipt**

The samples were received on 4/20/2021 4:34 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°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 laboratory control sample (LCS) for preparation batch 880-2116 and analytical batch 880-2138 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10>. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Client Sample ID: BH07

Lab Sample ID: 890-547-1

Date Collected: 04/20/21 13:18

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 14:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 14:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 14:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 14:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 14:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 14:24	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 14:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	04/22/21 10:00	04/22/21 14:24	1
1,4-Difluorobenzene (Surr)	119		70 - 130	04/22/21 10:00	04/22/21 14:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *	49.9		mg/Kg		04/21/21 16:46	04/22/21 16:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/21/21 16:46	04/22/21 16:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/21/21 16:46	04/22/21 16:09	1
Total TPH	<49.9	U	49.9		mg/Kg		04/21/21 16:46	04/22/21 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130	04/21/21 16:46	04/22/21 16:09	1
o-Terphenyl	107		70 - 130	04/21/21 16:46	04/22/21 16:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	356		4.99		mg/Kg			04/23/21 02:07	1

Client Sample ID: BH07

Lab Sample ID: 890-547-2

Date Collected: 04/20/21 13:23

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/22/21 10:00	04/22/21 14:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/22/21 10:00	04/22/21 14:44	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/22/21 10:00	04/22/21 14:44	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/22/21 10:00	04/22/21 14:44	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/22/21 10:00	04/22/21 14:44	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/22/21 10:00	04/22/21 14:44	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		04/22/21 10:00	04/22/21 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	04/22/21 10:00	04/22/21 14:44	1
1,4-Difluorobenzene (Surr)	112		70 - 130	04/22/21 10:00	04/22/21 14:44	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Client Sample ID: BH07

Lab Sample ID: 890-547-2

Date Collected: 04/20/21 13:23

Matrix: Solid

Date Received: 04/20/21 16:34

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U **	50.0		mg/Kg		04/21/21 16:46	04/22/21 16:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 16:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 16:30	1
Total TPH	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	04/21/21 16:46	04/22/21 16:30	1
o-Terphenyl	89		70 - 130	04/21/21 16:46	04/22/21 16:30	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.80		4.99		mg/Kg			04/23/21 02:13	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-547-1	BH07	110	119
890-547-2	BH07	105	112
LCS 880-2100/1-A	Lab Control Sample	94	112
LCSD 880-2100/2-A	Lab Control Sample Dup	90	102
MB 880-2100/5-A	Method Blank	112	100
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-547-1	BH07	118	107
890-547-2	BH07	96	89
LCS 880-2116/2-A	Lab Control Sample	110	91
LCSD 880-2116/3-A	Lab Control Sample Dup	107	88
MB 880-2116/1-A	Method Blank	107	99
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-2100/5-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2100

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	04/22/21 10:00	04/22/21 13:41	1
1,4-Difluorobenzene (Surr)	100		70 - 130	04/22/21 10:00	04/22/21 13:41	1

Lab Sample ID: LCS 880-2100/1-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08422		mg/Kg		84	70 - 130
Toluene	0.100	0.1007		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.09893		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.1969		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09731		mg/Kg		97	70 - 130

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

Lab Sample ID: LCSD 880-2100/2-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08720		mg/Kg		87	70 - 130	3	35
Toluene	0.100	0.09383		mg/Kg		94	70 - 130	7	35
Ethylbenzene	0.100	0.09142		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1861		mg/Kg		93	70 - 130	6	35
o-Xylene	0.100	0.09027		mg/Kg		90	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

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

Lab Sample ID: MB 880-2116/1-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Total TPH	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	04/21/21 16:46	04/22/21 12:04	1
o-Terphenyl	99		70 - 130	04/21/21 16:46	04/22/21 12:04	1

Lab Sample ID: LCS 880-2116/2-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1387	*+	mg/Kg		139	70 - 130
Diesel Range Organics (Over C10-C28)	1000	975.4		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: LCSD 880-2116/3-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2116

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1281		mg/Kg		128	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	936.8		mg/Kg		94	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	88		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2178/1-A

Matrix: Solid

Analysis Batch: 2181

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/22/21 23:56	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-2178/2-A

Matrix: Solid

Analysis Batch: 2181

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	253.2		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-2178/3-A

Matrix: Solid

Analysis Batch: 2181

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	260.0		mg/Kg		104	90 - 110	3	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

GC VOA

Prep Batch: 2100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-547-1	BH07	Total/NA	Solid	5035	
890-547-2	BH07	Total/NA	Solid	5035	
MB 880-2100/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-2100/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-2100/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 2135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-547-1	BH07	Total/NA	Solid	8021B	2100
890-547-2	BH07	Total/NA	Solid	8021B	2100
MB 880-2100/5-A	Method Blank	Total/NA	Solid	8021B	2100
LCS 880-2100/1-A	Lab Control Sample	Total/NA	Solid	8021B	2100
LCSD 880-2100/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	2100

GC Semi VOA

Prep Batch: 2116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-547-1	BH07	Total/NA	Solid	8015NM Prep	
890-547-2	BH07	Total/NA	Solid	8015NM Prep	
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 2138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-547-1	BH07	Total/NA	Solid	8015B NM	2116
890-547-2	BH07	Total/NA	Solid	8015B NM	2116
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015B NM	2116
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	2116
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	2116

HPLC/IC

Leach Batch: 2178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-547-1	BH07	Soluble	Solid	DI Leach	
890-547-2	BH07	Soluble	Solid	DI Leach	
MB 880-2178/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2178/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2178/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-547-1	BH07	Soluble	Solid	300.0	2178
890-547-2	BH07	Soluble	Solid	300.0	2178
MB 880-2178/1-A	Method Blank	Soluble	Solid	300.0	2178
LCS 880-2178/2-A	Lab Control Sample	Soluble	Solid	300.0	2178
LCSD 880-2178/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2178

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Client Sample ID: BH07

Lab Sample ID: 890-547-1

Date Collected: 04/20/21 13:18

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2100	04/22/21 10:00	KL	XM
Total/NA	Analysis	8021B		1	2135	04/22/21 14:24	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 16:09	AJ	XM
Soluble	Leach	DI Leach			2178	04/22/21 17:45	CH	XM
Soluble	Analysis	300.0		1	2181	04/23/21 02:07	WP	XM

Client Sample ID: BH07

Lab Sample ID: 890-547-2

Date Collected: 04/20/21 13:23

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2100	04/22/21 10:00	KL	XM
Total/NA	Analysis	8021B		1	2135	04/22/21 14:44	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 16:30	AJ	XM
Soluble	Leach	DI Leach			2178	04/22/21 17:45	CH	XM
Soluble	Analysis	300.0		1	2181	04/23/21 02:13	WP	XM

Laboratory References:

XM = Eurofins Xenco, 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 - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-547-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-547-1	BH07	Solid	04/20/21 13:18	04/20/21 16:34	- 0.5
890-547-2	BH07	Solid	04/20/21 13:23	04/20/21 16:34	- 1

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- 12
- 13
- 14



eurofins

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

Chain of Custody

Work Order No:

Page 01
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Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____	

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project: Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	
QUEST	Preservative Codes
	None: NO DI Water: H ₂ O
	Cool: Cool MeOH: Me
	HCL: HC HNO ₃ : HN
	H ₂ SO ₄ : H ₂ NaOH: Na
	H ₃ PO ₄ : HP
	NaHSO ₄ : NABIS
	Na ₂ S ₂ O ₃ : NaSO ₃
	Zn Acetate+NaOH: Zn
	NaOH+Ascorbic Acid: SAPC

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project: Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	
QUEST	Preservative Codes
	None: NO DI Water: H ₂ O
	Cool: Cool MeOH: Me
	HCL: HC HNO ₃ : HN
	H ₂ SO ₄ : H ₂ NaOH: Na
	H ₃ PO ₄ : HP
	NaHSO ₄ : NABIS
	Na ₂ S ₂ O ₃ : NaSO ₃
	Zn Acetate+NaOH: Zn
	NaOH+Ascorbic Acid: SAPC

[illegible]

Work Order Comments							
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project: Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____							
QUEST	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 Item of Custody	None: NO	DI Water: H ₂ O					
	Cool: Cool	MeOH: Me					
	HCL: HC	HNO ₃ : HN					
	H ₂ SO ₄ : H ₂	NaOH: Na					
	H ₃ PO ₄ : HP						
	NaHSO ₄ : NABIS						
Na ₂ S ₂ O ₃ : NaSO ₃							
Zn Acetate+NaOH: Zn							
NaOH+Ascorbic Acid: SACP							
		Sample Comments					
Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn Ni Se Ag TI U Hg: 1631/245.1/7470 /7471							
It assigns standard terms and conditions to circumstances beyond the control will be enforced unless previously negotiated.							

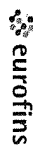
Work Order Comments					
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>					
State of Project:					
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>					
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____					
SUEST					
 in of Custody					
None: NO Cool: Cool HCL: HC H_2SO_4 : H_2 H_3PO_4 : HP $NaHSO_4$: NABIS $Na_2S_2O_3$: NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC					DI Water: H_2O MeOH: Me HNO_3 : HN NaOH: Na
Sample Comments					
Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn	Ni Se Ag Tl U	Hq: 1631 / 245.1 / 7470 / 7471			
It assigns standard terms and conditions are due to circumstances beyond the control of the contractor. All work orders will be enforced unless previously negotiated.					
(ure)	Received by: (Signature)	Date/Time			

Eurofins Xenco, Carlsbad

1089 N Canal St.
Carlsbad NM 88220

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

Chain of Custody Record



Environment Testing America

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-547-1

SDG Number: Lea County NM

Login Number: 547

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: 890-547-1

SDG Number: Lea County NM

Login Number: 547

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Midland

List Creation: 04/21/21 02:59 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-548-1

Laboratory Sample Delivery Group: Lea County NM

Client Project/Site: Queenie 15 Federal #001H - 31403152.001

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:
4/23/2021 3:28:37 PM

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

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

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

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Laboratory Job ID: 890-548-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	11
Lab Chronicle	12
Certification Summary	13
Method Summary	14
Sample Summary	15
Chain of Custody	16
Receipt Checklists	18

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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 - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

Job ID: 890-548-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-548-1

Comments

No additional comments.

Receipt

The samples were received on 4/20/2021 4:34 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 was 2.0° C.

GC VOA

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

GC Semi VOA

Method 8015B NM: The laboratory control sample (LCS) for preparation batch 880-2116 and analytical batch 880-2138 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10>. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

General Chemistry

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

Organic Prep

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

VOA Prep

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

Client Sample ID: BH08

Lab Sample ID: 890-548-1

Date Collected: 04/20/21 12:32

Matrix: Solid

Date Received: 04/20/21 16:34

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/22/21 10:00	04/22/21 15:05	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/22/21 10:00	04/22/21 15:05	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/22/21 10:00	04/22/21 15:05	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		04/22/21 10:00	04/22/21 15:05	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/22/21 10:00	04/22/21 15:05	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		04/22/21 10:00	04/22/21 15:05	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		04/22/21 10:00	04/22/21 15:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	04/22/21 10:00	04/22/21 15:05	1
1,4-Difluorobenzene (Surr)	113		70 - 130	04/22/21 10:00	04/22/21 15:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U **	50.0		mg/Kg		04/21/21 16:46	04/22/21 16:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 16:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 16:51	1
Total TPH	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 16:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	04/21/21 16:46	04/22/21 16:51	1
o-Terphenyl	85		70 - 130	04/21/21 16:46	04/22/21 16:51	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	271		4.97		mg/Kg			04/23/21 02:18	1

Client Sample ID: BH08

Lab Sample ID: 890-548-2

Date Collected: 04/20/21 12:48

Matrix: Solid

Date Received: 04/20/21 16:34

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 15:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 15:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 15:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 15:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 15:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 15:26	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 15:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	04/22/21 10:00	04/22/21 15:26	1
1,4-Difluorobenzene (Surr)	111		70 - 130	04/22/21 10:00	04/22/21 15:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U **	50.0		mg/Kg		04/21/21 16:46	04/22/21 17:15	1

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Client Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

Client Sample ID: BH08

Lab Sample ID: 890-548-2

Date Collected: 04/20/21 12:48

Matrix: Solid

Date Received: 04/20/21 16:34

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 17:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 17:15	1
Total TPH	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 17:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130				04/21/21 16:46	04/22/21 17:15	1
o-Terphenyl	99		70 - 130				04/21/21 16:46	04/22/21 17:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21.6		4.96		mg/Kg			04/23/21 02:23	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-548-1	BH08	101	113
890-548-2	BH08	101	111
LCS 880-2100/1-A	Lab Control Sample	94	112
LCSD 880-2100/2-A	Lab Control Sample Dup	90	102
MB 880-2100/5-A	Method Blank	112	100
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-548-1	BH08	94	85
890-548-2	BH08	109	99
LCS 880-2116/2-A	Lab Control Sample	110	91
LCSD 880-2116/3-A	Lab Control Sample Dup	107	88
MB 880-2116/1-A	Method Blank	107	99
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-2100/5-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2100

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/22/21 10:00	04/22/21 13:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	04/22/21 10:00	04/22/21 13:41	1
1,4-Difluorobenzene (Surr)	100		70 - 130	04/22/21 10:00	04/22/21 13:41	1

Lab Sample ID: LCS 880-2100/1-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08422		mg/Kg		84	70 - 130
Toluene	0.100	0.1007		mg/Kg		101	70 - 130
Ethylbenzene	0.100	0.09893		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.1969		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09731		mg/Kg		97	70 - 130

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

Lab Sample ID: LCSD 880-2100/2-A

Matrix: Solid

Analysis Batch: 2135

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2100

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08720		mg/Kg		87	70 - 130	3	35
Toluene	0.100	0.09383		mg/Kg		94	70 - 130	7	35
Ethylbenzene	0.100	0.09142		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1861		mg/Kg		93	70 - 130	6	35
o-Xylene	0.100	0.09027		mg/Kg		90	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

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

Lab Sample ID: MB 880-2116/1-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 2116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1
Total TPH	<50.0	U	50.0		mg/Kg		04/21/21 16:46	04/22/21 12:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	04/21/21 16:46	04/22/21 12:04	1
o-Terphenyl	99		70 - 130	04/21/21 16:46	04/22/21 12:04	1

Lab Sample ID: LCS 880-2116/2-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 2116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1387	*+	mg/Kg		139	70 - 130
Diesel Range Organics (Over C10-C28)	1000	975.4		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: LCSD 880-2116/3-A

Matrix: Solid

Analysis Batch: 2138

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 2116

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1281		mg/Kg		128	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	1000	936.8		mg/Kg		94	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	88		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2178/1-A

Matrix: Solid

Analysis Batch: 2181

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/22/21 23:56	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-2178/2-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Soluble

Analysis Batch: 2181

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	253.2		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-2178/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Soluble

Analysis Batch: 2181

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	260.0		mg/Kg		104	90 - 110	3	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

GC VOA

Prep Batch: 2100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-548-1	BH08	Total/NA	Solid	5035	
890-548-2	BH08	Total/NA	Solid	5035	
MB 880-2100/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-2100/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-2100/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 2135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-548-1	BH08	Total/NA	Solid	8021B	2100
890-548-2	BH08	Total/NA	Solid	8021B	2100
MB 880-2100/5-A	Method Blank	Total/NA	Solid	8021B	2100
LCS 880-2100/1-A	Lab Control Sample	Total/NA	Solid	8021B	2100
LCSD 880-2100/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	2100

GC Semi VOA

Prep Batch: 2116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-548-1	BH08	Total/NA	Solid	8015NM Prep	
890-548-2	BH08	Total/NA	Solid	8015NM Prep	
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 2138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-548-1	BH08	Total/NA	Solid	8015B NM	2116
890-548-2	BH08	Total/NA	Solid	8015B NM	2116
MB 880-2116/1-A	Method Blank	Total/NA	Solid	8015B NM	2116
LCS 880-2116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	2116
LCSD 880-2116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	2116

HPLC/IC

Leach Batch: 2178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-548-1	BH08	Soluble	Solid	DI Leach	
890-548-2	BH08	Soluble	Solid	DI Leach	
MB 880-2178/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2178/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2178/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-548-1	BH08	Soluble	Solid	300.0	2178
890-548-2	BH08	Soluble	Solid	300.0	2178
MB 880-2178/1-A	Method Blank	Soluble	Solid	300.0	2178
LCS 880-2178/2-A	Lab Control Sample	Soluble	Solid	300.0	2178
LCSD 880-2178/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2178

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
 Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
 SDG: Lea County NM

Client Sample ID: BH08

Lab Sample ID: 890-548-1

Date Collected: 04/20/21 12:32

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2100	04/22/21 10:00	KL	XM
Total/NA	Analysis	8021B		1	2135	04/22/21 15:05	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 16:51	AJ	XM
Soluble	Leach	DI Leach			2178	04/22/21 17:45	CH	XM
Soluble	Analysis	300.0		1	2181	04/23/21 02:18	WP	XM

Client Sample ID: BH08

Lab Sample ID: 890-548-2

Date Collected: 04/20/21 12:48

Matrix: Solid

Date Received: 04/20/21 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2100	04/22/21 10:00	KL	XM
Total/NA	Analysis	8021B		1	2135	04/22/21 15:26	KL	XM
Total/NA	Prep	8015NM Prep			2116	04/21/21 16:46	DM	XM
Total/NA	Analysis	8015B NM		1	2138	04/22/21 17:15	AJ	XM
Soluble	Leach	DI Leach			2178	04/22/21 17:45	CH	XM
Soluble	Analysis	300.0		1	2181	04/23/21 02:23	WP	XM

Laboratory References:

XM = Eurofins Xenco, 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 - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: Queenie 15 Federal #001H - 31403152.001

Job ID: 890-548-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
890-548-1	BH08	Solid	04/20/21 12:32	04/20/21 16:34	
890-548-2	BH08	Solid	04/20/21 12:48	04/20/21 16:34	

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Environment Testing
Xenco

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


Chain of Custody

Work Order No:

www.xenco.com Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to (Primary)	→
Company Name:	W&P USA	Company Name:	→
Address:	3800 North A Street	Address:	→
City, State ZIP:	Midland TX 79705	City, State ZIP:	→
Phone:	(281) 702-2329	Email:	joseph.hernandez@w&p.com

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

Project Name:		Quartz 15 Federal # 0014		Turn Around	
Project Number:		31403152.001		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project Location:		Leg County		Due Date:	
Sampler's Name:		Fatima Smith		TAT starts the day received by the lab, if received by 4:30pm	
PO #:					
SAMPLE RECEIPT		Temp Blank:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wet Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Samples Received Intact		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Thermometer ID: 21NA-007	
Cooler Custody Seals:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		Correction Factor: -0.2	
Sample Custody Seals:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		Temperature Reading: 2.2	
Total Containers:				Corrected Temperature: 2.6	
Parameters					
H (EPA 8015) EX (EPA 0=8021) oride (EPA 300.0)					
ANALYSIS REQUEST					
Preservative Codes					
None: NO		DI Water: H ₂ O			
Cool: Cool		MeOH: Me			
HCL: HC		HNO ₃ : HN			
H ₂ SO ₄ : H ₂		NaOH: Na			
H ₃ PO ₄ : HP					
NaHSO ₄ : NABIS					
Na ₂ S ₂ O ₃ : NaSO ₃					
Zn Acetate+NaOH: Zn					
NaOH+Ascorbic Acid: SASC					
890-548 Chain of Custody 					

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	TPH	BTO	Chl	Sample Comments
BH08	S	4/26/21	1252	0.5'		1				
BH08	S	4/26/21	1248	1'						
740										

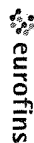
Total 200.7 / 6010		200.8 / 6020:		8RCRA 13PPM		Texas 11		Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn	
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010:		8RCRA		Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		Hg: 1631 / 245.1 / 7470 / 7471	
<p>Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.</p>									
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time				
1 <i>[Signature]</i>	<i>[Signature]</i>	4/20/21 1634							
3									
5									

Revised Date: 08/25/2020 Rev: 2020

Eurofins Xenco, Carlsbad

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

Chain of Custody Record



Environment Testing America

Client Information (Sub Contract Lab)						Sampler
Client Contact:						Lab PM
Shipping/Receiving						Kramer Jessica
Company:						E-Mail
Eurofins Xenco						Jessica.kramer@eurofinet.com
Address:						Accreditations Required (See note)
1211 W. Florida Ave						NELAP - Texas
City:						Carrier Tracking No(s):
Midland						
State Zip:						State of Origin:
TX. 79701						New Mexico
Phone:						Page:
432-704-5440(Tel)						Page 1 of 1
Email:						Job #:
						890-548-1
Project Name:						Preservation Codes
Queene 15 Federal #001H - 31403152 001						A. HCL B. NaOH C. Zn Acetate D. Nitric Acid E. NaHSO4 F. MeOH G. Amorphous H. Ascorbic Acid I. Ice J. DI Water K. EDTA L. EDA M. Hexane N. None O. AsNaO2 P. Na2O4S Q. Na2SO3 R. Na2S2O3 S. H2SO4 T. TSP Dodecahydrate U. Acetone V. MCAA W. pH 4-5 Z. other (specify)
Site:						Other:
SSOV#:						
Sample Identification - Client ID (Lab ID)						Total Number of containers
BH08 (890-548-1)	4/20/21	12 32	Mountain	Solid	X	1
BH08 (890-548-2)	4/20/21	12 48	Mountain	Solid	X	1
Special Instructions/Note.						
Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC Laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco LLC.						
Possible Hazard Identification						
Unconfirmed						
Deliverable Requested I II III IV, Other (specify)						
Primary Deliverable Rank 2						
Empty Kit Relinquished by						
Relinquished by						
Date/Time						
Company						
Received by						
Date/Time						
Company						
Relinquished by						
Date/Time						
Company						
Custody Seals Intact.						Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No						

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-548-1

SDG Number: Lea County NM

Login Number: 548

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: 890-548-1

SDG Number: Lea County NM

Login Number: 548

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Midland

List Creation: 04/21/21 03:00 PM

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-669-1

Laboratory Sample Delivery Group: 31403152
Client Project/Site: Queenie 15 Federal #001H
Revision: 2

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:
6/8/2021 10:57:52 AM

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

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results through

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www.eurofinsus.com/Env

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

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

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

Laboratory Job ID: 890-669-1
SDG: 31403152

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	10
Lab Chronicle	11
Certification Summary	12
Method Summary	13
Sample Summary	14
Chain of Custody	15
Receipt Checklists	16

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

Definitions/Glossary

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

Job ID: 890-669-1
SDG: 31403152

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Eurofins Xenco, Carlsbad

Case Narrative

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

Job ID: 890-669-1
SDG: 31403152

Job ID: 890-669-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-669-1

Receipt

The sample was received on 5/13/2021 4:35 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.2°C

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: BH01A (890-669-1).

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

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

Job ID: 890-669-1
SDG: 31403152

Client Sample ID: BH01

Lab Sample ID: 890-669-1

Date Collected: 05/13/21 11:30

Matrix: Solid

Date Received: 05/13/21 16:35

Sample Depth: 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		05/17/21 09:05	05/17/21 15:36	1
Toluene	<0.00198	U	0.00198	mg/Kg		05/17/21 09:05	05/17/21 15:36	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		05/17/21 09:05	05/17/21 15:36	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		05/17/21 09:05	05/17/21 15:36	1
o-Xylene	0.00363		0.00198	mg/Kg		05/17/21 09:05	05/17/21 15:36	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		05/17/21 09:05	05/17/21 15:36	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		05/17/21 09:05	05/17/21 15:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	05/17/21 09:05	05/17/21 15:36	1
1,4-Difluorobenzene (Surr)	99		70 - 130	05/17/21 09:05	05/17/21 15:36	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		05/14/21 15:47	05/15/21 02:31	1
Diesel Range Organics (Over C10-C28)	240		49.8	mg/Kg		05/14/21 15:47	05/15/21 02:31	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		05/14/21 15:47	05/15/21 02:31	1
Total TPH	240		49.8	mg/Kg		05/14/21 15:47	05/15/21 02:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130	05/14/21 15:47	05/15/21 02:31	1
o-Terphenyl	115		70 - 130	05/14/21 15:47	05/15/21 02:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400		4.95	mg/Kg			05/17/21 13:59	1

Eurofins Xenco, Carlsbad

Surrogate Summary

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

Job ID: 890-669-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-669-1	BH01	114	99
LCS 880-3160/1-A	Lab Control Sample	93	104
LCSD 880-3160/2-A	Lab Control Sample Dup	90	87
MB 880-3160/5-A	Method Blank	74	83

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-669-1	BH01	115	115
LCS 880-3136/2-A	Lab Control Sample	104	97
LCSD 880-3136/3-A	Lab Control Sample Dup	103	98
MB 880-3136/1-A	Method Blank	128	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-669-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-3160/5-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3160

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	05/17/21 09:05	05/17/21 14:20	1
1,4-Difluorobenzene (Surr)	83		70 - 130	05/17/21 09:05	05/17/21 14:20	1

Lab Sample ID: LCS 880-3160/1-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1095		mg/Kg		109	70 - 130
Toluene	0.100	0.09243		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.09811		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.1901		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09135		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-3160/2-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09192		mg/Kg		92	70 - 130	17	35
Toluene	0.100	0.09101		mg/Kg		91	70 - 130	2	35
Ethylbenzene	0.100	0.09557		mg/Kg		96	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1853		mg/Kg		93	70 - 130	3	35
o-Xylene	0.100	0.08857		mg/Kg		89	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	87		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-669-1
SDG: 31403152

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

Lab Sample ID: MB 880-3136/1-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3136

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		05/14/21 15:47	05/15/21 00:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Total TPH	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130	05/14/21 15:47	05/15/21 00:26	1
o-Terphenyl	133	S1+	70 - 130	05/14/21 15:47	05/15/21 00:26	1

Lab Sample ID: LCS 880-3136/2-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	898.1		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1059		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: LCSD 880-3136/3-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	889.0		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	1061		mg/Kg		106	70 - 130	0	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3096/1-A

Matrix: Solid

Analysis Batch: 3152

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			05/17/21 10:11	1

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-669-1
SDG: 31403152

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-3096/2-A

Matrix: Solid

Analysis Batch: 3152

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	242.6		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-3096/3-A

Matrix: Solid

Analysis Batch: 3152

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	243.1		mg/Kg		97	90 - 110	0	20

QC Association Summary

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

Job ID: 890-669-1
SDG: 31403152

GC VOA

Prep Batch: 3160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-669-1	BH01	Total/NA	Solid	5035	
MB 880-3160/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 3161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-669-1	BH01	Total/NA	Solid	8021B	3160
MB 880-3160/5-A	Method Blank	Total/NA	Solid	8021B	3160
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	8021B	3160
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3160

GC Semi VOA

Analysis Batch: 3108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-669-1	BH01	Total/NA	Solid	8015B NM	3136
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015B NM	3136
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3136
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3136

Prep Batch: 3136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-669-1	BH01	Total/NA	Solid	8015NM Prep	
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 3096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-669-1	BH01	Soluble	Solid	DI Leach	
MB 880-3096/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 3152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-669-1	BH01	Soluble	Solid	300.0	3096
MB 880-3096/1-A	Method Blank	Soluble	Solid	300.0	3096
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	300.0	3096
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3096

Eurofins Xenco, Carlsbad

Lab Chronicle

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

Job ID: 890-669-1
SDG: 31403152

Client Sample ID: BH01

Lab Sample ID: 890-669-1

Date Collected: 05/13/21 11:30

Matrix: Solid

Date Received: 05/13/21 16:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	3160	05/17/21 09:05	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3161	05/17/21 15:36	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	3136	05/14/21 15:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3108	05/15/21 02:31	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	3096	05/14/21 09:31	CH	XEN MID
Soluble	Analysis	300.0		1			3152	05/17/21 13:59	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 890-669-1
SDG: 31403152

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Eurofins Xenco, Carlsbad

Method Summary

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

Job ID: 890-669-1
SDG: 31403152

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Eurofins Xenco, Carlsbad

Sample Summary

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

Job ID: 890-669-1
SDG: 31403152

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-669-1	BH01	Solid	05/13/21 11:30	05/13/21 16:35	2'

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



Chain of Custody

Work Order No:

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 281-1111
Hobbs, NM (575-392-5550)

www.xenco.com Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Joseph Hernandez
Company Name:	WSP USA	Company Name:	WSP USA
Address:	3300 North A Street	Address:	3300 North A Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, TX 79705
Phone:	(291)702-2329	Email:	Jeremy.Hill@wsp.com, Dan.Moii@wsp.com, Joe.Hernandez@wsp.com

Work Order Comments									
Program: UST/ST	<input type="checkbox"/> RP	<input type="checkbox"/> Growfields	<input type="checkbox"/> RC	<input type="checkbox"/> Deepfund	<input type="checkbox"/>				
State of Project:									
Reporting Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> ST/UST	<input type="checkbox"/> RP	<input checked="" 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	ANALYSIS REQUEST						Work Order Notes
Project Number:	31403152	Routine <input checked="" type="checkbox"/>							NAPP2110325623
P.O. Number:	Lea	Rush:							
Sampler's Name:	Jeremy Hill	Due Date:							

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	7.4/7.2				Thermometer ID		
Received intact:	Yes	No			27111-003		
Cooler Custody Seals:	Yes	No			Correction Factor:	-0.2	
Sample Custody Seals:	Yes	No			Total Containers:		

Number of Containers


(EPA 8015)

(EPA 0=8021)

de (EPA 300.0)

WBS.CL.21.01096

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



890-669 Chain of Custody

[illegible]

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
 TCLP/SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 16931245.177470774

16347245.17747077471.tif

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	<i>H. [Signature]</i>	<i>Clare Cuff</i>	5-13-21 1635 ²			
3						
5						

Download Date: 05/14/18 8:00 PM

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-669-1

SDG Number: 31403152

Login Number: 669**List Number: 1****Creator: Ordóñez, Gabby****List Source: Eurofins Xenco, Carlsbad**

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-669-1

SDG Number: 31403152

Login Number: 669**List Number: 2****Creator: Copeland, Tatiana****List Source: Eurofins Xenco, Midland****List Creation: 05/14/21 04:10 PM**

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-670-1

Laboratory Sample Delivery Group: 31403152
Client Project/Site: Queenie 15 Federal #001H
Revision: 2

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:
6/8/2021 10:57:07 AM

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

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

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

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

Laboratory Job ID: 890-670-1
SDG: 31403152

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	10
Lab Chronicle	11
Certification Summary	12
Method Summary	13
Sample Summary	14
Chain of Custody	15
Receipt Checklists	16

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

Definitions/Glossary

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

Job ID: 890-670-1
SDG: 31403152

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Eurofins Xenco, Carlsbad

Case Narrative

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

Job ID: 890-670-1
SDG: 31403152

Job ID: 890-670-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-670-1

Receipt

The sample was received on 5/13/2021 4:35 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.2°C

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: BH02A (890-670-1).

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

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

Job ID: 890-670-1
SDG: 31403152

Client Sample ID: BH02

Lab Sample ID: 890-670-1

Date Collected: 05/13/21 12:15

Matrix: Solid

Date Received: 05/13/21 16:35

Sample Depth: 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		05/17/21 09:05	05/17/21 16:02	1
Toluene	<0.00202	U	0.00202	mg/Kg		05/17/21 09:05	05/17/21 16:02	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		05/17/21 09:05	05/17/21 16:02	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		05/17/21 09:05	05/17/21 16:02	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		05/17/21 09:05	05/17/21 16:02	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		05/17/21 09:05	05/17/21 16:02	1
Total BTEX	<0.00403	U	0.00403	mg/Kg		05/17/21 09:05	05/17/21 16:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	05/17/21 09:05	05/17/21 16:02	1
1,4-Difluorobenzene (Surr)	99		70 - 130	05/17/21 09:05	05/17/21 16:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		05/14/21 15:47	05/15/21 02:52	1
Diesel Range Organics (Over C10-C28)	245		49.8	mg/Kg		05/14/21 15:47	05/15/21 02:52	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		05/14/21 15:47	05/15/21 02:52	1
Total TPH	245		49.8	mg/Kg		05/14/21 15:47	05/15/21 02:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	05/14/21 15:47	05/15/21 02:52	1
o-Terphenyl	106		70 - 130	05/14/21 15:47	05/15/21 02:52	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4740		25.0	mg/Kg			05/17/21 14:04	5

Eurofins Xenco, Carlsbad

Surrogate Summary

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

Job ID: 890-670-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-670-1	BH02	123	99
LCS 880-3160/1-A	Lab Control Sample	93	104
LCSD 880-3160/2-A	Lab Control Sample Dup	90	87
MB 880-3160/5-A	Method Blank	74	83

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-670-1	BH02	103	106
LCS 880-3136/2-A	Lab Control Sample	104	97
LCSD 880-3136/3-A	Lab Control Sample Dup	103	98
MB 880-3136/1-A	Method Blank	128	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-670-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-3160/5-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3160

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	05/17/21 09:05	05/17/21 14:20	1
1,4-Difluorobenzene (Surr)	83		70 - 130	05/17/21 09:05	05/17/21 14:20	1

Lab Sample ID: LCS 880-3160/1-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1095		mg/Kg		109	70 - 130
Toluene	0.100	0.09243		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.09811		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.1901		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09135		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-3160/2-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09192		mg/Kg		92	70 - 130	17	35
Toluene	0.100	0.09101		mg/Kg		91	70 - 130	2	35
Ethylbenzene	0.100	0.09557		mg/Kg		96	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1853		mg/Kg		93	70 - 130	3	35
o-Xylene	0.100	0.08857		mg/Kg		89	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	87		70 - 130

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QC Sample Results

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

Job ID: 890-670-1
SDG: 31403152

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

Lab Sample ID: MB 880-3136/1-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3136

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		05/14/21 15:47	05/15/21 00:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Total TPH	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130	05/14/21 15:47	05/15/21 00:26	1
o-Terphenyl	133	S1+	70 - 130	05/14/21 15:47	05/15/21 00:26	1

Lab Sample ID: LCS 880-3136/2-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	898.1		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1059		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: LCSD 880-3136/3-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	889.0		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	1061		mg/Kg		106	70 - 130	0	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3096/1-A

Matrix: Solid

Analysis Batch: 3152

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			05/17/21 10:11	1

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-670-1
SDG: 31403152

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-3096/2-A

Matrix: Solid

Analysis Batch: 3152

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	242.6		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-3096/3-A

Matrix: Solid

Analysis Batch: 3152

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	243.1		mg/Kg		97	90 - 110	0	20

QC Association Summary

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

Job ID: 890-670-1
SDG: 31403152

GC VOA

Prep Batch: 3160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-670-1	BH02	Total/NA	Solid	5035	
MB 880-3160/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 3161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-670-1	BH02	Total/NA	Solid	8021B	3160
MB 880-3160/5-A	Method Blank	Total/NA	Solid	8021B	3160
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	8021B	3160
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3160

GC Semi VOA

Analysis Batch: 3108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-670-1	BH02	Total/NA	Solid	8015B NM	3136
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015B NM	3136
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3136
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3136

Prep Batch: 3136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-670-1	BH02	Total/NA	Solid	8015NM Prep	
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 3096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-670-1	BH02	Soluble	Solid	DI Leach	
MB 880-3096/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 3152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-670-1	BH02	Soluble	Solid	300.0	3096
MB 880-3096/1-A	Method Blank	Soluble	Solid	300.0	3096
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	300.0	3096
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3096

Eurofins Xenco, Carlsbad

Lab Chronicle

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

Job ID: 890-670-1
SDG: 31403152

Client Sample ID: BH02

Lab Sample ID: 890-670-1

Date Collected: 05/13/21 12:15

Matrix: Solid

Date Received: 05/13/21 16:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	3160	05/17/21 09:05	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3161	05/17/21 16:02	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	3136	05/14/21 15:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3108	05/15/21 02:52	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	3096	05/14/21 09:31	CH	XEN MID
Soluble	Analysis	300.0		5			3152	05/17/21 14:04	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 890-670-1
SDG: 31403152

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Eurofins Xenco, Carlsbad

Method Summary

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

Job ID: 890-670-1
SDG: 31403152

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Eurofins Xenco, Carlsbad

Sample Summary

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

Job ID: 890-670-1
SDG: 31403152

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-670-1	BH02	Solid	05/13/21 12:15	05/13/21 16:35	2'

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0500 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) 291-1111
Hobbs, NM (575) 392-7550

Chain of Custody

Work Order No:

Project Manager:	Joseph Hernandez	Bill to: (if different)	Joseph Hernandez
Company Name:	WSP USA	Company Name:	WSP USA
Address:	3300 North A Street	Address:	3300 North A Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, TX 79705
Phone:	(291)702-2329	Email:	jeremy.hill@wsp.com, Dan.Moitt@wsp.com, Joe.Hernandez@wsp.com

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

Project Name:	Queenie 15 Federal #001H	Turn Around	ANALYSIS REQUEST										Work Order Notes
Project Number:	31403152	Routine											NAPP2110325623
P.O. Number:	Lea	Rush:											
Sampler's Name:	Jeremy Hill	Due Date:											

SAMPLE RECEIPT		Temp Blank:	(Yes)	No	Wet Ice:	(Yes)	No
Temperature (°C):	7.4 / 7.2	Thermometer ID					
Received intact:	(Yes) No						
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2				
Sample Custody Seals:	Yes No N/A	Total Containers:					

Number of Containers

(EPA 8015)

(EPA 0-8021)

de (EPA 300.0)

890-670 Chain of Custody

WBS.CL.Z1.01096

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

[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
TCLP / SPLP	6010- 8RCRA	Sb As Ba Be Cd Cr Co Cu Ph Mn Mo Ni Se Ag Tl U	16341245-17470-77471-119

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	15-13-21 16:35	2		
3			4		
5			6		

Revised Data 05/11/18 Rev. 2018

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-670-1

SDG Number: 31403152

Login Number: 670**List Number: 1****Creator: Ordóñez, Gabby****List Source: Eurofins Xenco, Carlsbad**

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-670-1

SDG Number: 31403152

Login Number: 670**List Number: 2****Creator: Copeland, Tatiana****List Source: Eurofins Xenco, Midland****List Creation: 05/14/21 04:09 PM**

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-671-1

Laboratory Sample Delivery Group: 31403152
Client Project/Site: Queenie 15 Federal #001H
Revision: 2

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:
6/8/2021 10:56:26 AM

Jessica Kramer, Project Manager
(432)704-5440
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: 890-671-1
SDG: 31403152

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	10
Lab Chronicle	11
Certification Summary	12
Method Summary	13
Sample Summary	14
Chain of Custody	15
Receipt Checklists	16

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

Definitions/Glossary

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

Job ID: 890-671-1
SDG: 31403152

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: 890-671-1
SDG: 31403152

Job ID: 890-671-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-671-1

Receipt

The sample was received on 5/13/2021 4:35 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.2°C

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: BH03A (890-671-1).

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

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

Job ID: 890-671-1
SDG: 31403152

Client Sample ID: BH03

Lab Sample ID: 890-671-1

Date Collected: 05/13/21 13:21

Matrix: Solid

Date Received: 05/13/21 16:35

Sample Depth: 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		05/17/21 09:05	05/17/21 16:28	1
Toluene	<0.00202	U	0.00202	mg/Kg		05/17/21 09:05	05/17/21 16:28	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		05/17/21 09:05	05/17/21 16:28	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		05/17/21 09:05	05/17/21 16:28	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		05/17/21 09:05	05/17/21 16:28	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		05/17/21 09:05	05/17/21 16:28	1
Total BTEX	<0.00404	U	0.00404	mg/Kg		05/17/21 09:05	05/17/21 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	05/17/21 09:05	05/17/21 16:28	1
1,4-Difluorobenzene (Surr)	103		70 - 130	05/17/21 09:05	05/17/21 16:28	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		05/14/21 15:47	05/15/21 03:13	1
Diesel Range Organics (Over C10-C28)	116		49.9	mg/Kg		05/14/21 15:47	05/15/21 03:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/14/21 15:47	05/15/21 03:13	1
Total TPH	116		49.9	mg/Kg		05/14/21 15:47	05/15/21 03:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	05/14/21 15:47	05/15/21 03:13	1
o-Terphenyl	110		70 - 130	05/14/21 15:47	05/15/21 03:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3470		25.0	mg/Kg			05/17/21 14:09	5

Eurofins Xenco, Carlsbad

Surrogate Summary

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

Job ID: 890-671-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-671-1	BH03	118	103
LCS 880-3160/1-A	Lab Control Sample	93	104
LCSD 880-3160/2-A	Lab Control Sample Dup	90	87
MB 880-3160/5-A	Method Blank	74	83

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-671-1	BH03	105	110
LCS 880-3136/2-A	Lab Control Sample	104	97
LCSD 880-3136/3-A	Lab Control Sample Dup	103	98
MB 880-3136/1-A	Method Blank	128	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-671-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-3160/5-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3160

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	05/17/21 09:05	05/17/21 14:20	1
1,4-Difluorobenzene (Surr)	83		70 - 130	05/17/21 09:05	05/17/21 14:20	1

Lab Sample ID: LCS 880-3160/1-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1095		mg/Kg		109	70 - 130
Toluene	0.100	0.09243		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.09811		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.1901		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09135		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-3160/2-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09192		mg/Kg		92	70 - 130	17	35
Toluene	0.100	0.09101		mg/Kg		91	70 - 130	2	35
Ethylbenzene	0.100	0.09557		mg/Kg		96	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1853		mg/Kg		93	70 - 130	3	35
o-Xylene	0.100	0.08857		mg/Kg		89	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	87		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-671-1
SDG: 31403152

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

Lab Sample ID: MB 880-3136/1-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3136

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		05/14/21 15:47	05/15/21 00:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Total TPH	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130	05/14/21 15:47	05/15/21 00:26	1
o-Terphenyl	133	S1+	70 - 130	05/14/21 15:47	05/15/21 00:26	1

Lab Sample ID: LCS 880-3136/2-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	898.1		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1059		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: LCSD 880-3136/3-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	889.0		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	1061		mg/Kg		106	70 - 130	0	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3096/1-A

Matrix: Solid

Analysis Batch: 3152

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			05/17/21 10:11	1

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-671-1
SDG: 31403152

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-3096/2-A

Matrix: Solid

Analysis Batch: 3152

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	242.6		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-3096/3-A

Matrix: Solid

Analysis Batch: 3152

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	243.1		mg/Kg		97	90 - 110	0	20

QC Association Summary

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

Job ID: 890-671-1
SDG: 31403152

GC VOA

Prep Batch: 3160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-671-1	BH03	Total/NA	Solid	5035	
MB 880-3160/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 3161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-671-1	BH03	Total/NA	Solid	8021B	3160
MB 880-3160/5-A	Method Blank	Total/NA	Solid	8021B	3160
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	8021B	3160
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3160

GC Semi VOA

Analysis Batch: 3108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-671-1	BH03	Total/NA	Solid	8015B NM	3136
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015B NM	3136
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3136
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3136

Prep Batch: 3136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-671-1	BH03	Total/NA	Solid	8015NM Prep	
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 3096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-671-1	BH03	Soluble	Solid	DI Leach	
MB 880-3096/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 3152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-671-1	BH03	Soluble	Solid	300.0	3096
MB 880-3096/1-A	Method Blank	Soluble	Solid	300.0	3096
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	300.0	3096
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3096

Eurofins Xenco, Carlsbad

Lab Chronicle

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

Job ID: 890-671-1
SDG: 31403152

Client Sample ID: BH03

Lab Sample ID: 890-671-1

Date Collected: 05/13/21 13:21

Matrix: Solid

Date Received: 05/13/21 16:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	3160	05/17/21 09:05	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3161	05/17/21 16:28	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3136	05/14/21 15:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3108	05/15/21 03:13	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	3096	05/14/21 09:31	CH	XEN MID
Soluble	Analysis	300.0		5			3152	05/17/21 14:09	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 890-671-1
SDG: 31403152

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

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

Job ID: 890-671-1
SDG: 31403152

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Eurofins Xenco, Carlsbad

Sample Summary

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

Job ID: 890-671-1
SDG: 31403152

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-671-1	BH03	Solid	05/13/21 13:21	05/13/21 16:35	2'

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




Houston, TX (281) 240-4200 Dallas, TX (214) 902-0350 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (602) 382-7550 Atlanta, GA (404) 355-0900 Tampa, FL (813) 233-3827
Hobbs, NM (505) 382-7550

Chain of Custody

Work Order No:

Project Manager:	Joseph Hernandez	Bill to: (if different)	Joseph Hernandez
Company Name:	WSP USA	Company Name:	WSP USA
Address:	3300 North A Street	Address:	3300 North A Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, TX 79705
Phone:	(291)702-2329	Email:	Jeremy.Hill@wsp.com, Dan.Moii@wsp.com, Joe.Hernandez@wsp.com

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

Project Name:	Queenie 15 Federal #001H	Turn Around	ANALYSIS REQUEST					Work Order Notes
Project Number:	31403152	Routine						
P.O. Number:	LEN	Rush:						NAPP2110325623
Sampler's Name:	Jeremy Hill	Due Date:						
								

SAMPLE RECEIPT		Temp Blank:		Wet Ice:	
		Yes	No	Yes	No
Temperature (°C):	7.4 / 7.2				
Received Intact:	Yes				
Cooler Custody Seals:	Yes				
Sample Custody Seals:	Yes				

Thermometer ID: 11111111

Correction Factor: -0.2

Total Containers: 1

Number of Containers

PA 8015)

EPA 0=8021)

de (EPA 300.0)

890-671 Chain of Custody

WB.S.CL.21.01096

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

[illegible]

Circle Method(s) and Metal(s) to be analyzed	200.8 / 6020:	200.7 / 6010	Total
8RCRA 13PPM	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	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	8RCRA 13PPM
TCLP / SPLP 6010: 8RCRA, Sp. As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn, Mo, Ni, Se, Ag, Ti, U	1051 / 243.1	17470 / 7747.1	Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	5-13-21 1635 ²			
		4			
		6			

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-671-1

SDG Number: 31403152

Login Number: 671**List Number: 1****Creator: Ordóñez, Gabby****List Source: Eurofins Xenco, Carlsbad**

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-671-1

SDG Number: 31403152

Login Number: 671**List Number: 2****Creator: Copeland, Tatiana****List Source: Eurofins Xenco, Midland****List Creation: 05/14/21 04:09 PM**

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-672-1

Laboratory Sample Delivery Group: 31403152
Client Project/Site: Queenie 15 Federal #001H
Revision: 2

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:
6/8/2021 10:55:42 AM

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

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

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

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

Laboratory Job ID: 890-672-1
SDG: 31403152

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	10
Lab Chronicle	11
Certification Summary	12
Method Summary	13
Sample Summary	14
Chain of Custody	15
Receipt Checklists	17

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

Definitions/Glossary

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

Job ID: 890-672-1
SDG: 31403152

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Eurofins Xenco, Carlsbad

Case Narrative

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

Job ID: 890-672-1
SDG: 31403152

Job ID: 890-672-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-672-1

Receipt

The sample was received on 5/13/2021 4:35 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.2°C

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: BH04A (890-672-1).

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

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

Job ID: 890-672-1
SDG: 31403152

Client Sample ID: BH04

Lab Sample ID: 890-672-1

Date Collected: 05/13/21 10:18

Matrix: Solid

Date Received: 05/13/21 16:35

Sample Depth: 2'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 16:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 16:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 16:54	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/17/21 09:05	05/17/21 16:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 16:54	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/17/21 09:05	05/17/21 16:54	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		05/17/21 09:05	05/17/21 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130	05/17/21 09:05	05/17/21 16:54	1
1,4-Difluorobenzene (Surr)	97		70 - 130	05/17/21 09:05	05/17/21 16:54	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		05/14/21 15:47	05/15/21 03:34	1
Diesel Range Organics (Over C10-C28)	428		49.9	mg/Kg		05/14/21 15:47	05/15/21 03:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/14/21 15:47	05/15/21 03:34	1
Total TPH	428		49.9	mg/Kg		05/14/21 15:47	05/15/21 03:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130	05/14/21 15:47	05/15/21 03:34	1
o-Terphenyl	114		70 - 130	05/14/21 15:47	05/15/21 03:34	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7160		24.8	mg/Kg			05/17/21 14:14	5

Eurofins Xenco, Carlsbad

Surrogate Summary

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

Job ID: 890-672-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-672-1	BH04	129	97
LCS 880-3160/1-A	Lab Control Sample	93	104
LCSD 880-3160/2-A	Lab Control Sample Dup	90	87
MB 880-3160/5-A	Method Blank	74	83

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-672-1	BH04	110	114
LCS 880-3136/2-A	Lab Control Sample	104	97
LCSD 880-3136/3-A	Lab Control Sample Dup	103	98
MB 880-3136/1-A	Method Blank	128	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-672-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-3160/5-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3160

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	05/17/21 09:05	05/17/21 14:20	1
1,4-Difluorobenzene (Surr)	83		70 - 130	05/17/21 09:05	05/17/21 14:20	1

Lab Sample ID: LCS 880-3160/1-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1095		mg/Kg		109	70 - 130
Toluene	0.100	0.09243		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.09811		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.1901		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09135		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-3160/2-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09192		mg/Kg		92	70 - 130	17	35
Toluene	0.100	0.09101		mg/Kg		91	70 - 130	2	35
Ethylbenzene	0.100	0.09557		mg/Kg		96	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1853		mg/Kg		93	70 - 130	3	35
o-Xylene	0.100	0.08857		mg/Kg		89	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	87		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-672-1
SDG: 31403152

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

Lab Sample ID: MB 880-3136/1-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3136

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		05/14/21 15:47	05/15/21 00:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Total TPH	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130	05/14/21 15:47	05/15/21 00:26	1
o-Terphenyl	133	S1+	70 - 130	05/14/21 15:47	05/15/21 00:26	1

Lab Sample ID: LCS 880-3136/2-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	898.1		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1059		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: LCSD 880-3136/3-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	889.0		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	1061		mg/Kg		106	70 - 130	0	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3096/1-A

Matrix: Solid

Analysis Batch: 3152

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			05/17/21 10:11	1

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-672-1
SDG: 31403152

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-3096/2-A

Matrix: Solid

Analysis Batch: 3152

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	242.6		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-3096/3-A

Matrix: Solid

Analysis Batch: 3152

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	243.1		mg/Kg		97	90 - 110	0	20

QC Association Summary

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

Job ID: 890-672-1
SDG: 31403152

GC VOA

Prep Batch: 3160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-672-1	BH04	Total/NA	Solid	5035	
MB 880-3160/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 3161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-672-1	BH04	Total/NA	Solid	8021B	3160
MB 880-3160/5-A	Method Blank	Total/NA	Solid	8021B	3160
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	8021B	3160
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3160

GC Semi VOA

Analysis Batch: 3108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-672-1	BH04	Total/NA	Solid	8015B NM	3136
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015B NM	3136
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3136
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3136

Prep Batch: 3136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-672-1	BH04	Total/NA	Solid	8015NM Prep	
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 3096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-672-1	BH04	Soluble	Solid	DI Leach	
MB 880-3096/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 3152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-672-1	BH04	Soluble	Solid	300.0	3096
MB 880-3096/1-A	Method Blank	Soluble	Solid	300.0	3096
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	300.0	3096
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3096

Eurofins Xenco, Carlsbad

Lab Chronicle

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

Job ID: 890-672-1
SDG: 31403152

Client Sample ID: BH04

Lab Sample ID: 890-672-1

Date Collected: 05/13/21 10:18

Matrix: Solid

Date Received: 05/13/21 16:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	3160	05/17/21 09:05	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3161	05/17/21 16:54	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3136	05/14/21 15:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3108	05/15/21 03:34	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	3096	05/14/21 09:31	CH	XEN MID
Soluble	Analysis	300.0		5			3152	05/17/21 14:14	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 890-672-1
SDG: 31403152

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

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

Job ID: 890-672-1
SDG: 31403152

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Eurofins Xenco, Carlsbad

Sample Summary

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

Job ID: 890-672-1
SDG: 31403152

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-672-1	BH04	Solid	05/13/21 10:18	05/13/21 16:35	2'

- 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
 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: _____

Project Manager:	Joseph Hernandez	Bill to: (if different)	Joseph Hernandez
Company Name:	WSP USA	Company Name:	WSP USA
Address:	3300 North A Street	Address:	3300 North A Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, TX 79705
Phone:	(291)702-2329	Email:	jeremy.hill@wsp.com, Dan.Moira@wsp.com, Joe.Hernandez@wsp.com

Program: UST/PST <input type="checkbox"/> RP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project:	
Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> UST <input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/>	Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: <input type="checkbox"/>

Project Name:	Queenie 15 Federal #001H	Turn Around	
Project Number:	31403152	Routine	<input checked="" type="checkbox"/>
P.O. Number:	lea	Rush:	
Sampler's Name:	Jeremy Hill	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wet Ice:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Temperature (°C):	7.4 / 7.2	Thermometer ID	27W-009
	Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	-0.2
	Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Total Containers:	
	Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST										Work Order Notes
BH04A	S	5/13/2021	10:18	2'	1	X	X	X	 890-672 Chain of Custody										NAPP2110325623 WBS.CL.21.01096
									TAT starts the day received by the lab, if received by 4:30pm										Sample Comments
									Discrete										

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 1631124511747017471 Hg

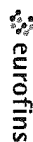
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility 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 \$3 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	2 <i>[Signature]</i>	5-13-21 1635	3	4	
5			6		

Eurofins Xenco, Carlsbad

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

Chain of Custody Record



Environment Testing America

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-672-1

SDG Number: 31403152

Login Number: 672**List Number: 1****Creator: Ordóñez, Gabby****List Source: Eurofins Xenco, Carlsbad**

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-672-1

SDG Number: 31403152

Login Number: 672**List Number: 2****Creator: Copeland, Tatiana****List Source: Eurofins Xenco, Midland****List Creation: 05/14/21 04:06 PM**

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



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-673-1

Laboratory Sample Delivery Group: 31403152
Client Project/Site: Queenie 15 Federal #001H
Revision: 1

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
6/8/2021 10:54:42 AM

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

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

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

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

Laboratory Job ID: 890-673-1
SDG: 31403152

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	6
QC Sample Results	7
QC Association Summary	10
Lab Chronicle	11
Certification Summary	12
Method Summary	13
Sample Summary	14
Chain of Custody	15
Receipt Checklists	16

Definitions/Glossary

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

Job ID: 890-673-1
SDG: 31403152

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Eurofins Xenco, Carlsbad

Case Narrative

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

Job ID: 890-673-1
SDG: 31403152

Job ID: 890-673-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-673-1

REVISION

The report being provided is a revision of the original report sent on 5/19/2021. The report (revision 1) is being revised due to Per client email, corrected sample ID from BH06A to BH06.

Report revision history

Receipt

The sample was received on 5/13/2021 4:35 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.2°C

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

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

Job ID: 890-673-1
SDG: 31403152

Client Sample ID: BH06

Lab Sample ID: 890-673-1

Date Collected: 05/13/21 09:26

Matrix: Solid

Date Received: 05/13/21 16:35

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		05/17/21 09:05	05/17/21 17:21	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/17/21 09:05	05/17/21 17:21	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/17/21 09:05	05/17/21 17:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/17/21 09:05	05/17/21 17:21	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/17/21 09:05	05/17/21 17:21	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/17/21 09:05	05/17/21 17:21	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		05/17/21 09:05	05/17/21 17:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	05/17/21 09:05	05/17/21 17:21	1
1,4-Difluorobenzene (Surr)	102		70 - 130	05/17/21 09:05	05/17/21 17:21	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		05/14/21 15:47	05/15/21 03:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		05/14/21 15:47	05/15/21 03:55	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/14/21 15:47	05/15/21 03:55	1
Total TPH	<49.9	U	49.9	mg/Kg		05/14/21 15:47	05/15/21 03:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	05/14/21 15:47	05/15/21 03:55	1
o-Terphenyl	109		70 - 130	05/14/21 15:47	05/15/21 03:55	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	39.3		5.04	mg/Kg			05/17/21 14:36	1

Eurofins Xenco, Carlsbad

Surrogate Summary

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

Job ID: 890-673-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-673-1	BH06	102	102
LCS 880-3160/1-A	Lab Control Sample	93	104
LCSD 880-3160/2-A	Lab Control Sample Dup	90	87
MB 880-3160/5-A	Method Blank	74	83

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-673-1	BH06	106	109
LCS 880-3136/2-A	Lab Control Sample	104	97
LCSD 880-3136/3-A	Lab Control Sample Dup	103	98
MB 880-3136/1-A	Method Blank	128	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-673-1
SDG: 31403152

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-3160/5-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3160

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		05/17/21 09:05	05/17/21 14:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	05/17/21 09:05	05/17/21 14:20	1
1,4-Difluorobenzene (Surr)	83		70 - 130	05/17/21 09:05	05/17/21 14:20	1

Lab Sample ID: LCS 880-3160/1-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1095		mg/Kg		109	70 - 130
Toluene	0.100	0.09243		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.09811		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.1901		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09135		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-3160/2-A

Matrix: Solid

Analysis Batch: 3161

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3160

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09192		mg/Kg		92	70 - 130	17	35
Toluene	0.100	0.09101		mg/Kg		91	70 - 130	2	35
Ethylbenzene	0.100	0.09557		mg/Kg		96	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1853		mg/Kg		93	70 - 130	3	35
o-Xylene	0.100	0.08857		mg/Kg		89	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	87		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-673-1
SDG: 31403152

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

Lab Sample ID: MB 880-3136/1-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3136

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		05/14/21 15:47	05/15/21 00:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1
Total TPH	<50.0	U	50.0	mg/Kg		05/14/21 15:47	05/15/21 00:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130	05/14/21 15:47	05/15/21 00:26	1
o-Terphenyl	133	S1+	70 - 130	05/14/21 15:47	05/15/21 00:26	1

Lab Sample ID: LCS 880-3136/2-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	898.1		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1059		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: LCSD 880-3136/3-A

Matrix: Solid

Analysis Batch: 3108

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3136

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	889.0		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	1061		mg/Kg		106	70 - 130	0	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3096/1-A

Matrix: Solid

Analysis Batch: 3152

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			05/17/21 10:11	1

Eurofins Xenco, Carlsbad

QC Sample Results

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

Job ID: 890-673-1
SDG: 31403152

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-3096/2-A

Matrix: Solid

Analysis Batch: 3152

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	242.6		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-3096/3-A

Matrix: Solid

Analysis Batch: 3152

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	243.1		mg/Kg		97	90 - 110	0	20

QC Association Summary

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

Job ID: 890-673-1
SDG: 31403152

GC VOA

Prep Batch: 3160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-673-1	BH06	Total/NA	Solid	5035	
MB 880-3160/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 3161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-673-1	BH06	Total/NA	Solid	8021B	3160
MB 880-3160/5-A	Method Blank	Total/NA	Solid	8021B	3160
LCS 880-3160/1-A	Lab Control Sample	Total/NA	Solid	8021B	3160
LCSD 880-3160/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3160

GC Semi VOA

Analysis Batch: 3108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-673-1	BH06	Total/NA	Solid	8015B NM	3136
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015B NM	3136
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3136
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3136

Prep Batch: 3136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-673-1	BH06	Total/NA	Solid	8015NM Prep	
MB 880-3136/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3136/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3136/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 3096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-673-1	BH06	Soluble	Solid	DI Leach	
MB 880-3096/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 3152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-673-1	BH06	Soluble	Solid	300.0	3096
MB 880-3096/1-A	Method Blank	Soluble	Solid	300.0	3096
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	300.0	3096
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3096

Eurofins Xenco, Carlsbad

Lab Chronicle

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

Job ID: 890-673-1
SDG: 31403152

Client Sample ID: BH06

Lab Sample ID: 890-673-1

Date Collected: 05/13/21 09:26

Matrix: Solid

Date Received: 05/13/21 16:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	3160	05/17/21 09:05	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3161	05/17/21 17:21	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	3136	05/14/21 15:47	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3108	05/15/21 03:55	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	3096	05/14/21 09:31	CH	XEN MID
Soluble	Analysis	300.0		1			3152	05/17/21 14:36	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 890-673-1
SDG: 31403152

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Eurofins Xenco, Carlsbad

Method Summary

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

Job ID: 890-673-1
SDG: 31403152

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Eurofins Xenco, Carlsbad

Sample Summary

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

Job ID: 890-673-1
SDG: 31403152

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-673-1	BH06	Solid	05/13/21 09:26	05/13/21 16:35	1'

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0500 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1966
Phoenix, AZ (602) 392-7550 Atlanta, GA (770) 449-8800 Tampa, FL (813) 291-1111
Hobbs, NM (505) 392-7550

Chain of Custody

Work Order No:

Project Manager:	Joseph Hernandez	Bill to: (if different)	Joseph Hernandez
Company Name:	WSP USA	Company Name:	WSP USA
Address:	3300 North A Street	Address:	3300 North A Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, TX 79705
Phone:	(291)702-2329	Email:	jeremy.hill@wsp.com, Dan.Moi@wsp.com, Joe.Hernandez@wsp.com

Work Order Comments									
Program: UST/ST		<input type="checkbox"/> RP	<input type="checkbox"/> Growfields	<input type="checkbox"/> RC	<input type="checkbox"/> Superfund	<input type="checkbox"/>			
State of Project:									
Reporting Level: I		<input type="checkbox"/> Level III	<input type="checkbox"/> ST/UST	<input type="checkbox"/> RP	<input checked="" type="checkbox"/> Level IV	<input type="checkbox"/>			
Deliverables: EDD		<input type="checkbox"/>	ADAPT	<input type="checkbox"/>	Other:				

[illegible]


SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	7.2/7.2				Thermometer ID		
Received intact:	Yes	No			2444-007		
Cooler Custody Seals:	Yes	No			Correction Factor:	-0.2	
Sample Custody Seals:	Yes	No			Total Containers:		

Number of Containers

PA 8015)

EPA 0-8021)

le (EPA 300.0)



890-673 Chain of Custody

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

WBS.CL.21.01096

[illegible]

890-673 Chain of Custody

WBS.CL.21.01096

NAPP2110325623

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

Sample Comments

Circle Method(s) and Metal(s) to be analyzed	Total 200.7 / 6010	200.8 / 6020:
8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr II Sn U V Zn	
TCLP / SPLP 6010- 8RCRA Sp As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		1931 / 245: 177470 / 77471: Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	12-13-21/1035			

Download Data NS1418 Rev. 2018

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-673-1

SDG Number: 31403152

Login Number: 673**List Number: 1****Creator: Clifton, Cloe****List Source: Eurofins Xenco, Carlsbad**

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-673-1

SDG Number: 31403152

Login Number: 673**List Number: 2****Creator: Copeland, Tatiana****List Source: Eurofins Xenco, Midland****List Creation: 05/14/21 04:07 PM**

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

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 31022

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 5555 San Felipe St. Houston, TX 77056	OGRID: 372098
	Action Number: 31022
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	Marathon's deferral requests to complete final remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first is approved. The deferred C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue.	8/10/2021