

Incident ID	nAPP2118933045
District RP	
Facility ID	
Application ID	

Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Melodie Sanjari

Title: Environmental Professional

Signature: Melodie Sanjari

Date: 10/4/2021

email: msanjari@marathonoil.com

Telephone: 575-988-8753

OCD Only

Received by: Robert Hamlet

Date: 2/16/2022

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

Closure Approved by: Robert Hamlet

Date: 2/16/2022

Printed Name: Robert Hamlet

Title: Environmental Specialist - Advanced

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

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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 32.2680393811873

Longitude -104.00066437803
(NAD 83 in decimal degrees to 5 decimal places)

Site Name MACHO GRANDE STATE #002H	Site Type Oil & Gas Facility
Date Release Discovered: 7/7/2021	API# (if applicable) 30-015-42659

Unit Letter	Section	Township	Range	County
A	32	23S	29E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 61.8	Volume Recovered (bbls) 40
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Operator arrived on location to a failure on the 4" vic clamp/90 going into the charge pump before the injection pump that resulted in the release of approx.. 61.8 bbl. of produced water onto the engineered pad. All standing fluids were immediately recovered and a scraping of all impacted surface material will commence once an NM811 call is cleared.

State of New Mexico
Oil Conservation Division

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District RP	
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ 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 submitted 7/8/2021	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <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.	
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Printed Name: <u>Melodie Sanjari</u>	Title: <u>Environmental Professional</u>
Signature: <u>Melodie Sanjari</u>	Date: <u>7/8/2021</u>
email: <u>msanjari@marathonoil.com</u>	Telephone: <u>575-988-8753</u>
<u>OCD Only</u>	
Received by: <u>Ramona Marcus</u>	Date: <u>7/9/2021</u>

NAPP2118933045

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:

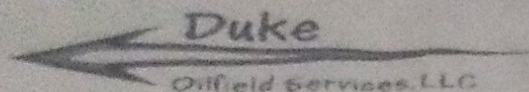
Soil Type: Gravel Loam

	Length (ft.)	Width (ft.)	Avg. Saturated Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Rectangle Area #1	210	40	1.25	0%	21.82	21.82	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					21.82	21.82	0.00

Volume Recovered and not included in Standing Liquid Inputs :

% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
	40.00		

	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Total Spill Volume (bbls):	61.82	21.82	0.00



PO Box 1253
 Lovington, NM 88260
 Office (575) 396-0934
 Fax (575) 396-0449
 Cell (575) 396-6619
 Email dukeoilfieldllc@gmail.com

NAPP2118933045

153875

Oil _____

Disposal ☒

Salt Water _____

Fresh Water _____

DATE: 7-7-21COMPANY: Marathon oil

RIG: _____

LEASE: Alacho grande state #2H

ORDERED BY: _____

Description of Service	Hours
API 30-015-42659 Eddy County NM	
* Drive to location	2
* Working in location cleaning floor pad	4
* 1 bad to disposal 40 bbls. WBM w/o	
* Drive to yard	2

CE-29523700

Work done by: Arister CUnit #: 96Accepted: Justin Winkle

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 35722

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 5555 San Felipe St. Houston, TX 77056	OGRID: 372098
	Action Number: 35722
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
marcus	None	7/9/2021

Incident ID	nAPP2118933045
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Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

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District RP	
Facility ID	
Application ID	

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Printed Name: Melodie Sanjari Title: Environmental Professional
Signature: Melodie Sanjari Date: 10/4/2021
email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: _____ Date: _____

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- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
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Printed Name: Melodie Sanjari Title: Environmental Professional
Signature: Melodie Sanjari Date: 10/4/2021
email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: _____ Date: _____

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Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____



WSP USA

508 West Stevens Street
Carlsbad, NM 88220
575.887.0101

October 4, 2021

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

**RE: Closure Request
Macho Grande State #002H
Incident Number nAPP2118933045
Eddy County, New Mexico**

To Whom it May Concern:

WSP USA Inc. (WSP), on behalf of Marathon Oil Permian, LLC. (Marathon), is pleased to present the following Closure Request detailing site assessment, soil sampling, and excavation activities at the Macho Grande State #002H (Site) located in Unit A, Section 32, Township 23 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil following a release of produced water at the Site. Based on the excavation activities and results of soil sampling events, Marathon is submitting this Closure Request, describing remediation that has occurred and requesting no further action (NFA) for Incident Number nAPP2118933045.

RELEASE BACKGROUND

On July 7, 2021, failure of a 4-inch Victaulic clamp resulted in the release of approximately 61.8 barrels (bbls) of produced water onto the surface of the well pad. Approximately 50 bbls of produced water were recovered via vacuum truck. Marathon reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Form C-141 on July 8, 2021 and was assigned Incident Number nAPP2118933045.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be less than 50 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted water well with depth to water data is New Mexico Office of the State Engineer (NMOSE) file number C-03587 POD 1, located approximately 0.47 miles northwest of the Site. The NMOSE water well has a reported depth to groundwater of 44 feet bgs and a total depth of 99 feet bgs. The referenced well record is included as Attachment 1.



The closest continuously flowing or significant watercourse to the Site is a stream/river, located approximately 6,089 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Site receptors are identified on Figure 1.

CLOSURE CRITERIA

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On July 22, 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 on the well pad. A total of 13 delineation boreholes (BH01 through BH13) 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. 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, BH02 and BH04 through BH10.

On August 8, 2021, WSP utilized a Shaw Tool, Ltd Portable Core Drill was utilized to further advance delineation boreholes BH01, BH02 and BH04 through BH10 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 of approximately 1-foot to 2 feet 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, BH02 and BH04 through BH10) one soil sample was collected from the soil interval with the highest field screening (0.5-foot bgs). For delineation boreholes (BH03 and BH11 through BH13) one sample was collected from the terminus of the borehole soil sample (1-foot bgs or 2 feet 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 2.

EXCAVATION AND CONFIRMATION SOIL SAMPLING ACTIVITIES

Between September 8 and September 30, 2021, WSP personnel were at the Site to oversee excavation activities. Impacted soil was excavated with a track-mounted excavator from the release area as indicated by delineation soil sample laboratory analytical results, visible staining and field screening. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride. Photographic documentation is included in Attachment 3.

When field screening indicated compliance with Closure Criteria, 5-point composite confirmation soil samples (FS01 through FS16) were collected from the excavation area. The composite floor samples in the excavation included soil from any sidewalls and represented at most 200 square feet. Composite soil samples FS01 through FS16 were collected from the floor of the excavation from depths ranging from approximately 1-foot to 1.75 feet bgs. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The excavation soil samples were collected, handled, and analyzed as previously described. The excavation extent and excavation soil sample locations are presented on Figure 3.

The excavation area totaled approximately 3,185 square feet. A total of approximately 133 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at a R360 Facility under Marathon approved manifests. After completion of confirmation sampling, the excavation areas were secured with fencing.

District II
Page 4**SOIL ANALYTICAL RESULTS**

Laboratory analytical results for excavation sidewall indicated benzene, BTEX, TPH and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the July 7, 2021 release of produced water. Laboratory analytical results for excavation soil samples indicated benzene, BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the soil sample analytical results, no further remediation appears required. Following approval of the Closure Request by NMOCD, Marathon will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

WSP and Marathon believe these remedial actions are protective of human health, the environment, and groundwater. As such, Marathon respectfully requests NFA for Incident Number nAPP2118933045.

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

Sincerely,

WSP USA Inc.

A handwritten signature in black ink, appearing to read 'Joseph S. Hernandez'.

Joseph S. Hernandez
Associate Consultant, Geologist

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

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



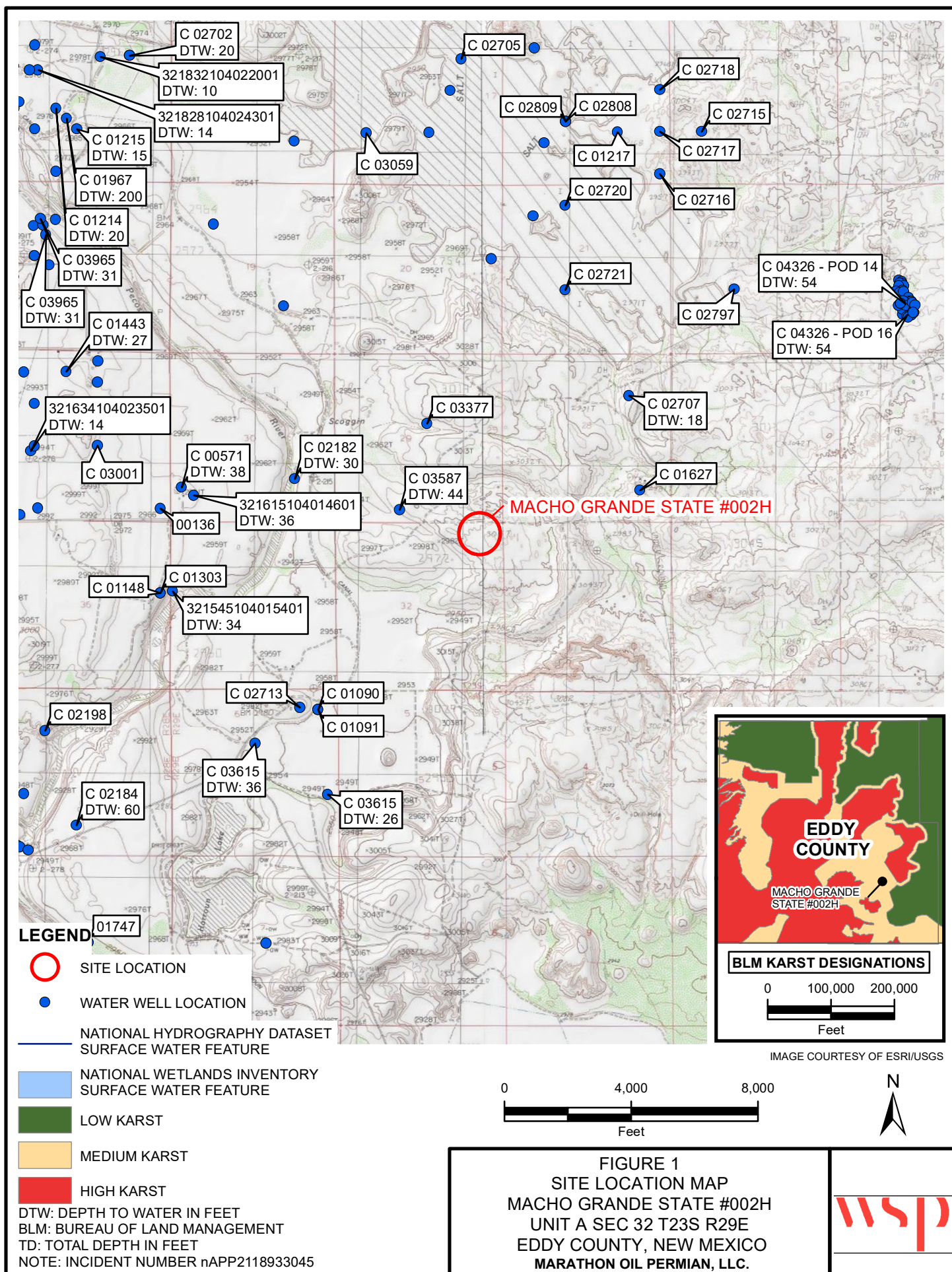
District II
Page 5

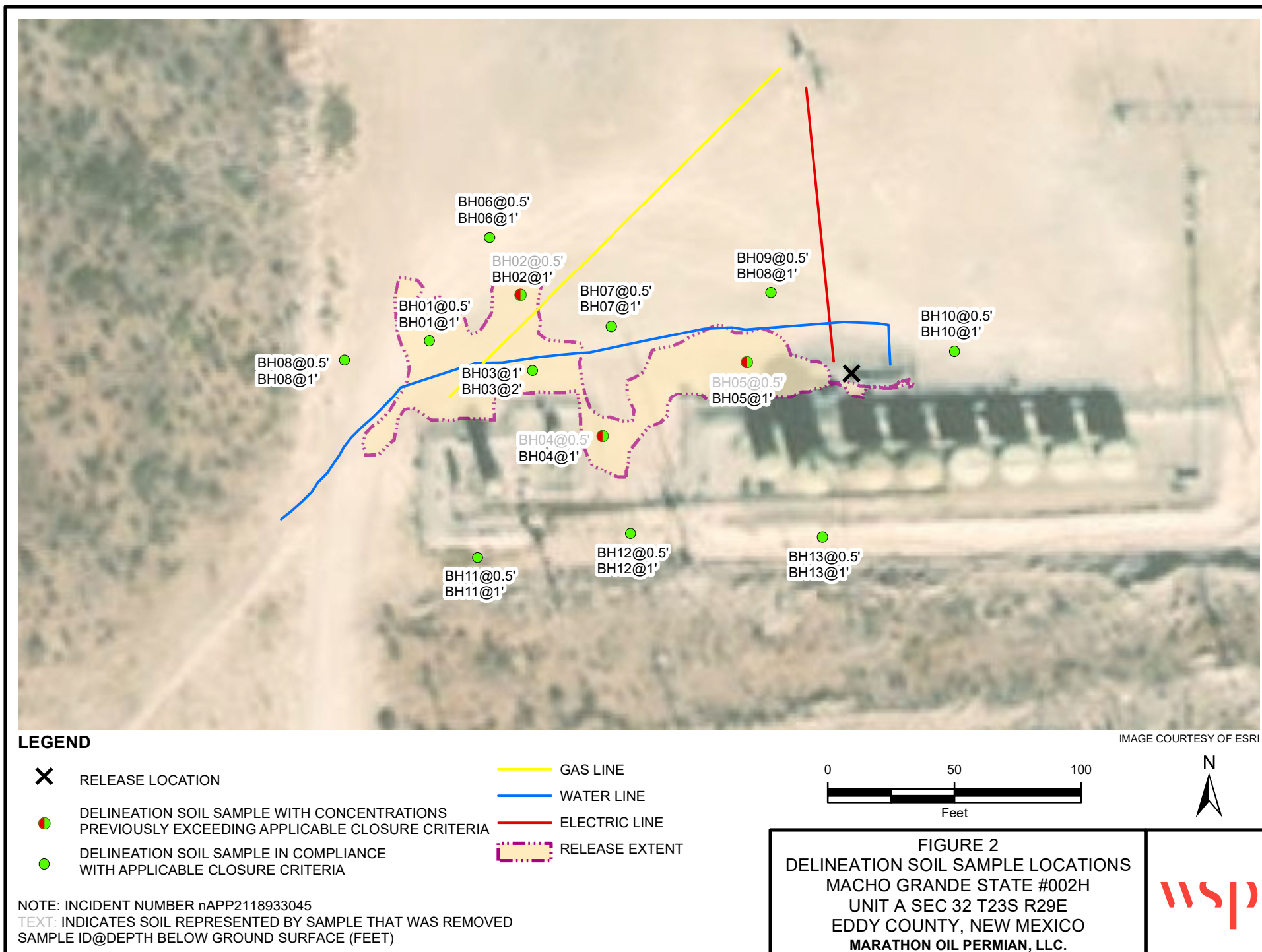
cc: Melodie Sanjari, Marathon

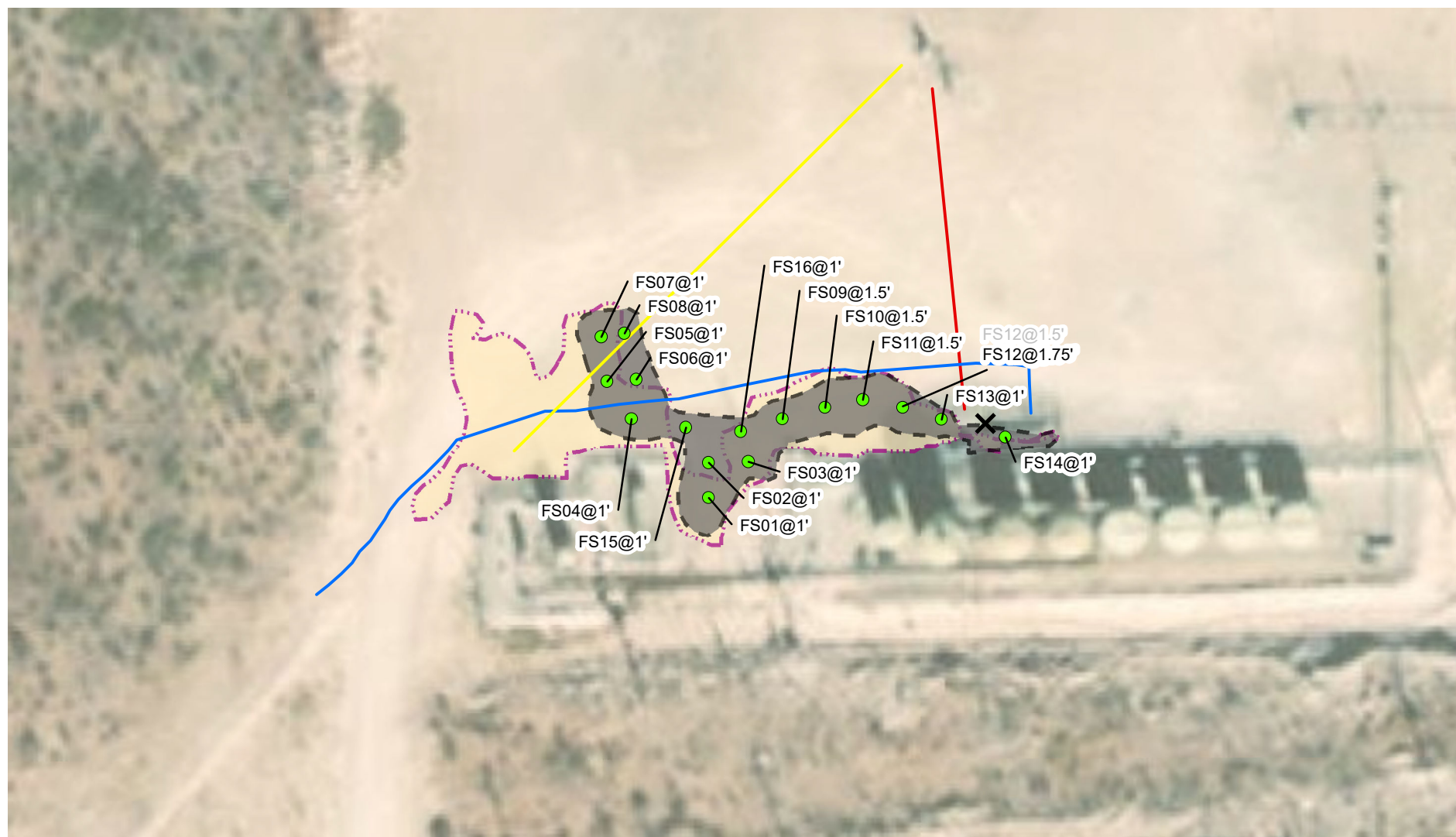
Attachments:

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

FIGURES





**LEGEND**

- RELEASE LOCATION
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- GAS LINE
- WATER LINE
- ELECTRIC LINE
- RELEASE EXTENT
- EXCAVATION EXTENT

NOTE: INCIDENT NUMBER nAPP2118933045

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

IMAGE COURTESY OF ESRI

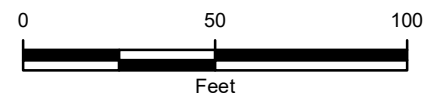


FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
 MACHO GRANDE STATE #002H
 UNIT A SEC 32 T23S R29E
 EDDY COUNTY, NEW MEXICO
 MARATHON OIL PERMIAN, LLC.



TABLES

Table 1

Soil Analytical Results
Macho Grande State #002H
Incident Number nAPP2118933045
Eddy County, New Mexico
Marathon Oil Permian, LLC.

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	NE	100	600
Delineation Samples										
BH01	07/22/2021	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	564
BH01	08/09/2021	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	181
BH02	07/22/2021	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	858
BH02	08/09/2021	1	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	156
BH03	07/22/2021	1	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	73.7
BH03	07/22/2021	2	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	93.5
BH04	07/22/2021	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	5,700
BH04	08/09/2021	1	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	140
BH05	07/22/2021	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	4,290
BH05	08/09/2021	1	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	85.6
BH06	07/22/2021	0.5	<0.00198	<0.00397	<49.8	<49.8	<49.8	<49.8	<49.8	290
BH06	08/09/2021	1	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	283
BH07	07/22/2021	0.5	<0.00200	<0.00399	<49.7	<49.7	<49.7	<49.7	<49.7	307
BH07	08/09/2021	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	489
BH08	07/22/2021	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	68.5
BH08	08/09/2021	1	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	32.3
BH09	07/22/2021	0.5	<0.00202	0.00474	<50.0	<50.0	<50.0	<50.0	<50.0	312
BH09	08/09/2021	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	373

Table 1

Soil Analytical Results
Macho Grande State #002H
Incident Number nAPP2118933045
Eddy County, New Mexico
Marathon Oil Permian, LLC.

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	NE	100	600
BH10	07/22/2021	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	97.6
BH10	08/09/2021	1	<0.00200	<0.00399	<49.9	<49.9	60.0	<49.9	60.0	386
BH11	07/22/2021	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	16.4
BH11	07/22/2021	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	19.7
BH12	07/22/2021	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	120
BH12	07/22/2021	1	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	209
BH13	07/22/2021	0.5	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	92.7
BH13	07/22/2021	1	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	16.8
Excavation Samples										
FS01	09/22/2021	1	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	419
FS02	09/22/2021	1	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	384
FS03	09/22/2021	1	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	409
FS04	09/22/2021	1	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	452
FS05	09/22/2021	1	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	351
FS06	09/22/2021	1	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	70.1
FS07	09/22/2021	1	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	366
FS08	09/22/2021	1	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	173
FS09	09/22/2021	1.5	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	277
FS10	09/22/2021	1.5	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	490

Table 1

Soil Analytical Results
Macho Grande State #002H
Incident Number nAPP2118933045
Eddy County, New Mexico
Marathon Oil Permian, LLC.

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	NE	100	600
FS11	09/22/2021	1.5	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	520
FS12	09/22/2021	1.5	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	722
FS12	09/30/2021	1.75	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<50.0	202
FS13	09/22/2021	1	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	441
FS14	09/22/2021	1	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	422
FS15	09/22/2021	1	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	79.9
FS16	09/22/2021	1	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	127

Notes

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - motor oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code

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

NE - Not Established

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

Greyed data represents samples that were excavated

ATTACHMENT 1: REFERENCED WELL RECORD



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng	X	Y
C	03587 POD1	1	4	3	29	23S	29E	593338	3570754

Driller License: 1348

Driller Company: TAYLOR WATER WELL SERVICE

Driller Name: TAYLOR, CLINTON E. (LD)

Drill Start Date: 04/13/2013

Drill Finish Date: 04/14/2013

Plug Date:

Log File Date: 05/07/2013

PCW Rev Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield: 1 GPM

Casing Size: 4.00

Depth Well: 99 feet

Depth Water: 44 feet

Water Bearing Stratifications:

Top Bottom Description

98 99 Limestone/Dolomite/Chalk

Casing Perforations:

Top Bottom

89 99

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

ATTACHMENT 2: LITHOLOGIC/SOIL SAMPLING LOG

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH01		Date: 7/22/2021, 8/9/2021	
								Site Name: Macho Grande 2H			
								Incident Number: nAPP2118933045			
								WSP Job Number: 31403152.004			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Travis Casey		Method: Hand Auger	
Lat/Long: 32.267740, -104.001169				Field Screening: Chloride, PID				Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips; Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
M	640	0	No	BH01	0.5	0.5	CCHE	0 - 1 ft bgs: pad CALICHE fill, well compacted, poorly-graded sand (f.) and silt with gravel to boulder sized clasts			
M	160	0.5	No	BH01	1	1					
Total Depth											

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH02		Date: 7/22/2021, 8/9/2021	
								Site Name: Macho Grande 2H			
								Incident Number: nAPP2118933045			
								WSP Job Number: 31403152.004			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Travis Casey		Method: Hand Auger	
Lat/Long: 32.267790, -104.001053				Field Screening: Chloride, PID				Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips; Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
M	2,668	0	No	BH02	0.5	0.5	CCHE	0 - 1 ft bgs: pad CALICHE fill, well compacted, poorly-graded sand (f.) and silt with gravel to boulder sized clasts			
M	188	0.2	No	BH02	1	1					
Total Depth											

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		Sample ID: BH03		Date: 7/22/2021				
		Site Name: Macho Grande 2H						
		Incident Number: nAPP2118933045						
		WSP Job Number: 31403152.004						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.267707, -104.001037		Field Screening: Chloride, PID		Hole Diameter: 2.5 inches				
				Total Depth: 2 foot bgs				
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips (<132 ppm); Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	0 - 0.5 ft bgs: pad CALICHE cap, well compacted
M	BDL	0	No	BH03	1	0.5	SP-SM	0.5 - 2 ft bgs: brown, poorly graded SAND (f.) with silt and gravel, moist, no plasticity, no odor
					1			
					1.5			
M	BDL	0	No	BH03	2	2		
Total Depth								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					Sample ID: BH04		Date: 7/22/2021, 8/9/2021		
					Site Name: Macho Grande 2H				
					Incident Number: nAPP2118933045				
					WSP Job Number: 31403152.004				
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Travis Casey		Method: Hand Auger		
Lat/Long: 32.267636, -104.000949			Field Screening: Chloride, PID			Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips; Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	
M	4,112	0	No	BH04	0.5	0.5	CCHE	0 - 1 ft bgs: pad CALICHE fill, well compacted, poorly-graded sand (f.) and silt with gravel to boulder sized clasts	
M	188	0.4	No	BH04	1	1			
Total Depth									

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					Sample ID: BH05		Date: 7/22/2021, 8/9/2021		
					Site Name: Macho Grande 2H				
					Incident Number: nAPP2118933045				
					WSP Job Number: 31403152.004				
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Travis Casey		Method: Hand Auger		
Lat/Long: 32.267716, -104.00764			Field Screening: Chloride, PID			Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips; Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	
M	3,476	0	No	BH05	0.5	0.5	CCHE	0 - 1 ft bgs: pad CALICHE fill, well compacted, poorly-graded sand (f.) and silt with gravel to boulder sized clasts	
M	108	0.9	No	BH05	1	1			
Total Depth									

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					Sample ID: BH06		Date: 7/22/2021, 8/9/2021	
					Site Name: Macho Grande 2H			
					Incident Number: nAPP2118933045			
					WSP Job Number: 31403152.004			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Travis Casey		Method: Hand Auger	
Lat/Long: 32.267852, -104.001092			Field Screening: Chloride, PID		Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips (<108 ppm); Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	376	0	No	BH06	0.5	0.5	CCHE	0 - 1 ft bgs: pad CALICHE fill, well compacted, poorly-graded sand (f.) and silt with gravel to boulder sized clasts
D	BDL	0	No	BH06	1	1		
Total Depth								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					Sample ID: BH07		Date: 7/22/2021, 8/9/2021		
					Site Name: Macho Grande 2H				
					Incident Number: nAPP2118933045				
					WSP Job Number: 31403152.004				
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Travis Casey		Method: Hand Auger		
Lat/Long: 32.267755, -104.000937			Field Screening: Chloride, PID			Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips; Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	
M	264	0	No	BH07	0.5	0.5	CCHE	0 - 1 ft bgs: pad CALICHE fill, well compacted, poorly-graded sand (f.) and silt with gravel to boulder sized clasts	
M	320	0.4	No	BH07	1	1			
Total Depth									

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH08		Date: 7/22/2021, 8/9/2021	
								Site Name: Macho Grande 2H			
								Incident Number: nAPP2118933045			
								WSP Job Number: 31403152.004			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Travis Casey		Method: Hand Auger	
Lat/Long: 32.267719, -104.001277				Field Screening: Chloride, PID				Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips; Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
M	<132	0	No	BH08	0.5	0.5	CCHE	0 - 1 ft bgs: pad CALICHE fill, well compacted, poorly-graded sand (f.) and silt with gravel to boulder sized clasts			
M	<108	0.6	No	BH08	1	1					
Total Depth											

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					Sample ID: BH09		Date: 7/22/2021, 8/9/2021	
					Site Name: Macho Grande 2H			
					Incident Number: nAPP2118933045			
					WSP Job Number: 31403152.004			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Travis Casey		Method: Hand Auger	
Lat/Long: 32.267791, -104.000733			Field Screening: Chloride, PID		Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips; Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	0 - 0.5 ft bgs: pad CALICHE cap, well compacted
M	264	0.6	No	BH09	0.5	0.5		
M	284	0.5	No	BH09	1	1	SP-SM	0.5 - 1 ft bgs: brown, poorly graded SAND (f.) with silt, moist, no plasticity, no odor
Total Depth								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					Sample ID: BH10		Date: 7/22/2021, 8/9/2021		
					Site Name: Macho Grande 2H				
					Incident Number: nAPP2118933045				
					WSP Job Number: 31403152.004				
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Travis Casey		Method: Hand Auger		
Lat/Long: 32.267727, -104.000499			Field Screening: Chloride, PID			Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips (<132 ppm); Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	
M	BDL	0	No	BH10	0.5	0.5	CCHE	0 - 1 ft bgs: pad CALICHE fill, well compacted, poorly-graded sand (f.) and silt with gravel to boulder sized clasts	
M	284	0.6	No	BH10	1	1			
Total Depth									

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220					Sample ID: BH11		Date: 7/22/2021	
					Site Name: Macho Grande 2H			
					Incident Number: nAPP2118933045			
					WSP Job Number: 31403152.004			
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.267505, -104.001108			Field Screening: Chloride, PID		Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips (<132 ppm); Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	0 - 0.5 ft bgs: pad CALICHE cap, well compacted
D	BDL	0.6	No	BH11	0.5	0.5		
D	BDL	0	No	BH11	1	1	SP-SM	0.5 - 1 ft bgs: brown, poorly graded SAND (f.) with silt and gravel, dry, no plasticity, no odor
Total Depth								

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH12		Date: 7/22/2021	
								Site Name: Macho Grande 2H			
								Incident Number: nAPP2118933045			
								WSP Job Number: 31403152.004			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Travis Casey		Method: Hand Auger	
Lat/Long: 32.267530, -104.000913				Field Screening: Chloride, PID				Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips (<132 ppm); Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0	CCHE	0 - 0.5 ft bgs: pad CALICHE cap, well compacted			
M	BDL	0	No	BH12	0.5	0.5					
M	192	0	No	BH12	1	1	SP-SM	0.5 - 1 ft bgs: brown, poorly graded SAND (f.) with silt and gravel, moist, no plasticity, no odor			
Total Depth											

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								Sample ID: BH13		Date: 7/22/2021	
								Site Name: Macho Grande 2H			
								Incident Number: nAPP2118933045			
								WSP Job Number: 31403152.004			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Travis Casey		Method: Hand Auger	
Lat/Long: 32.267526, -104.000668				Field Screening: Chloride, PID				Hole Diameter: 2.5 inches		Total Depth: 1 foot bgs	
Comments: Moisture Content "M" - Moist/"D" - Dry; BDL - Below Detection Limit of HACH Chloride Test Strips (<132 ppm); Chloride values do not include correction factor - chloride screening performed with 1:4 dilution factor of soil to water.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0	CCHE	0 - 0.5 ft bgs: pad CALICHE cap, well compacted			
M	BDL	0	No	BH13	0.5	0.5	SP-SM	0.5 - 1 ft bgs: brown, poorly graded SAND (f.) with silt and gravel, moist, no plasticity, no odor			
M	BDL	0	No	BH13	1	1					
Total Depth											

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG

Marathon Oil Permian, LLC.	Macho Grande State #002H Eddy County, New Mexico	31403152.004
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Photo No.	Date	
1	September 8, 2021	
East view of the release area before excavation activities.		 A wide-angle photograph showing an industrial site under a blue sky with scattered white clouds. In the foreground, there is a gravel-covered area with several vertical black stakes and orange survey flags. To the left, there are industrial structures, including a large cylindrical tank and a smaller building. In the background, more industrial equipment and a distant horizon are visible.

Photo No.	Date	
2	September 8, 2021	
South view of the Site during excavation activities.		 A photograph showing a large, deep excavation pit filled with loose soil and rocks. The pit is surrounded by a dirt embankment. In the background, there are industrial structures, including a large cylindrical tank and a smaller building, under a clear sky.



PHOTOGRAPHIC LOG

Marathon Oil Permian, LLC.	Macho Grande State #002H Eddy County, New Mexico	31403152.004
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Photo No.	Date	
3	September 22, 2021	
West view of the Site during excavation activities.		

Photo No.	Date	
4	September 22, 2021	
Southwest view of the Site during excavation activities.		

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-978-1

Laboratory Sample Delivery Group: 31403152.004

Client Project/Site: Macho Grande 2H

For:

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

Attn: Joseph Hernandez

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

Authorized for release by:
7/30/2021 8:20:25 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: Macho Grande 2H

Laboratory Job ID: 890-978-1
SDG: 31403152.004

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	15
Lab Chronicle	18
Certification Summary	20
Method Summary	21
Sample Summary	22
Chain of Custody	23
Receipt Checklists	25

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD 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.
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: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Job ID: 890-978-1

Laboratory: Eurofins Xenco, Carlsbad**Narrative**

Job Narrative
890-978-1**Comments**

No additional comments.

Receipt

The samples were received on 7/22/2021 3:49 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 15.6° 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 RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-5699 and analytical batch 880-5794 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28)

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: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Client Sample ID: BH01

Lab Sample ID: 890-978-1

Date Collected: 07/22/21 09:45

Matrix: Solid

Date Received: 07/22/21 15:49

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 09:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 09:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 09:27	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		07/23/21 14:24	07/24/21 09:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 09:27	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		07/23/21 14:24	07/24/21 09:27	1
Total BTEX	<0.00401	U	0.00401	mg/Kg		07/23/21 14:24	07/24/21 09:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	07/23/21 14:24	07/24/21 09:27	1
1,4-Difluorobenzene (Surr)	100		70 - 130	07/23/21 14:24	07/24/21 09:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 15:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		07/27/21 10:38	07/29/21 15:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 15:16	1
Total TPH	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 15:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	07/27/21 10:38	07/29/21 15:16	1
o-Terphenyl	116		70 - 130	07/27/21 10:38	07/29/21 15:16	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	564		5.04	mg/Kg			07/26/21 17:54	1

Client Sample ID: BH02

Lab Sample ID: 890-978-2

Date Collected: 07/22/21 09:30

Matrix: Solid

Date Received: 07/22/21 15:49

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 09:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 09:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 09:47	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		07/23/21 14:24	07/24/21 09:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 09:47	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		07/23/21 14:24	07/24/21 09:47	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		07/23/21 14:24	07/24/21 09:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	07/23/21 14:24	07/24/21 09:47	1
1,4-Difluorobenzene (Surr)	105		70 - 130	07/23/21 14:24	07/24/21 09:47	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Client Sample ID: BH02

Lab Sample ID: 890-978-2

Date Collected: 07/22/21 09:30

Matrix: Solid

Date Received: 07/22/21 15:49

Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 16:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		07/27/21 10:38	07/29/21 16:19	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 16:19	1
Total TPH	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	07/27/21 10:38	07/29/21 16:19	1
o-Terphenyl	103		70 - 130	07/27/21 10:38	07/29/21 16:19	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	858		4.98	mg/Kg			07/26/21 18:00	1

Client Sample ID: BH03

Lab Sample ID: 890-978-3

Date Collected: 07/22/21 09:15

Matrix: Solid

Date Received: 07/22/21 15:49

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 10:08	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 10:08	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 10:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/23/21 14:24	07/24/21 10:08	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 10:08	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/23/21 14:24	07/24/21 10:08	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		07/23/21 14:24	07/24/21 10:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	07/23/21 14:24	07/24/21 10:08	1
1,4-Difluorobenzene (Surr)	98		70 - 130	07/23/21 14:24	07/24/21 10:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 16:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		07/27/21 10:38	07/29/21 16:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 16:40	1
Total TPH	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 16:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	07/27/21 10:38	07/29/21 16:40	1
o-Terphenyl	110		70 - 130	07/27/21 10:38	07/29/21 16:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	73.7		5.00	mg/Kg			07/26/21 18:05	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Client Sample ID: BH03A

Lab Sample ID: 890-978-4

Date Collected: 07/22/21 09:25

Matrix: Solid

Date Received: 07/22/21 15:49

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		07/23/21 14:24	07/24/21 10:28	1
Toluene	<0.00198	U	0.00198	mg/Kg		07/23/21 14:24	07/24/21 10:28	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		07/23/21 14:24	07/24/21 10:28	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		07/23/21 14:24	07/24/21 10:28	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		07/23/21 14:24	07/24/21 10:28	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		07/23/21 14:24	07/24/21 10:28	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		07/23/21 14:24	07/24/21 10:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	07/23/21 14:24	07/24/21 10:28	1
1,4-Difluorobenzene (Surr)	101		70 - 130	07/23/21 14:24	07/24/21 10:28	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	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 17:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		07/27/21 10:38	07/29/21 17:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 17:01	1
Total TPH	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 17:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	07/27/21 10:38	07/29/21 17:01	1
o-Terphenyl	103		70 - 130	07/27/21 10:38	07/29/21 17:01	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93.5		5.00	mg/Kg			07/26/21 18:10	1

Client Sample ID: BH04

Lab Sample ID: 890-978-5

Date Collected: 07/22/21 09:10

Matrix: Solid

Date Received: 07/22/21 15:49

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		07/23/21 14:24	07/24/21 10:48	1
Toluene	<0.00199	U	0.00199	mg/Kg		07/23/21 14:24	07/24/21 10:48	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		07/23/21 14:24	07/24/21 10:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		07/23/21 14:24	07/24/21 10:48	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		07/23/21 14:24	07/24/21 10:48	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		07/23/21 14:24	07/24/21 10:48	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		07/23/21 14:24	07/24/21 10:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	07/23/21 14:24	07/24/21 10:48	1
1,4-Difluorobenzene (Surr)	103		70 - 130	07/23/21 14:24	07/24/21 10:48	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Client Sample ID: BH04

Lab Sample ID: 890-978-5

Date Collected: 07/22/21 09:10

Matrix: Solid

Date Received: 07/22/21 15:49

Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 21:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 21:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 21:22	1
Total TPH	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 21:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	07/26/21 09:04	07/26/21 21:22	1
o-Terphenyl	105		70 - 130	07/26/21 09:04	07/26/21 21:22	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5700		25.2	mg/Kg			07/26/21 18:16	5

Client Sample ID: BH05

Lab Sample ID: 890-978-6

Date Collected: 07/22/21 09:04

Matrix: Solid

Date Received: 07/22/21 15:49

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		07/23/21 14:24	07/24/21 11:09	1
Toluene	<0.00199	U	0.00199	mg/Kg		07/23/21 14:24	07/24/21 11:09	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		07/23/21 14:24	07/24/21 11:09	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		07/23/21 14:24	07/24/21 11:09	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		07/23/21 14:24	07/24/21 11:09	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		07/23/21 14:24	07/24/21 11:09	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		07/23/21 14:24	07/24/21 11:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	07/23/21 14:24	07/24/21 11:09	1
1,4-Difluorobenzene (Surr)	104		70 - 130	07/23/21 14:24	07/24/21 11:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 21:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 21:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 21:43	1
Total TPH	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	07/26/21 09:04	07/26/21 21:43	1
o-Terphenyl	103		70 - 130	07/26/21 09:04	07/26/21 21:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4290		24.9	mg/Kg			07/24/21 17:52	5

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

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)
890-978-1	BH01	108	100
890-978-2	BH02	117	105
890-978-3	BH03	112	98
890-978-4	BH03A	104	101
890-978-5	BH04	108	103
890-978-6	BH05	110	104
LCS 880-5602/1-A	Lab Control Sample	97	97
LCSD 880-5602/2-A	Lab Control Sample Dup	102	93
MB 880-5577/5-A	Method Blank	113	95
MB 880-5602/5-A	Method Blank	111	91

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)
890-978-1	BH01	108	116
890-978-1 MS	BH01	109	103
890-978-1 MSD	BH01	92	89
890-978-2	BH02	94	103
890-978-3	BH03	102	110
890-978-4	BH03A	91	103
890-978-5	BH04	88	105
890-978-6	BH05	86	103
LCS 880-5651/2-A	Lab Control Sample	99	110
LCS 880-5699/2-A	Lab Control Sample	93	94
LCSD 880-5651/3-A	Lab Control Sample Dup	98	109
LCSD 880-5699/3-A	Lab Control Sample Dup	120	123
MB 880-5651/1-A	Method Blank	85	100
MB 880-5699/1-A	Method Blank	85	95

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-5577/5-A

Matrix: Solid

Analysis Batch: 5585

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5577

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/21 10:59	07/23/21 15:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/21 10:59	07/23/21 15:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/21 10:59	07/23/21 15:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/23/21 10:59	07/23/21 15:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/21 10:59	07/23/21 15:09	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/23/21 10:59	07/23/21 15:09	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		07/23/21 10:59	07/23/21 15:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	07/23/21 10:59	07/23/21 15:09	1
1,4-Difluorobenzene (Surr)	95		70 - 130	07/23/21 10:59	07/23/21 15:09	1

Lab Sample ID: MB 880-5602/5-A

Matrix: Solid

Analysis Batch: 5585

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5602

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 02:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 02:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 02:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/23/21 14:24	07/24/21 02:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/21 14:24	07/24/21 02:44	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/23/21 14:24	07/24/21 02:44	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		07/23/21 14:24	07/24/21 02:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	07/23/21 14:24	07/24/21 02:44	1
1,4-Difluorobenzene (Surr)	91		70 - 130	07/23/21 14:24	07/24/21 02:44	1

Lab Sample ID: LCS 880-5602/1-A

Matrix: Solid

Analysis Batch: 5585

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5602

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1002		mg/Kg		100	70 - 130
Toluene	0.100	0.09836		mg/Kg		98	70 - 130
Ethylbenzene	0.100	0.09977		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	0.200	0.1996		mg/Kg		100	70 - 130
o-Xylene	0.100	0.09617		mg/Kg		96	70 - 130

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

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

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

Lab Sample ID: LCSD 880-5602/2-A

Matrix: Solid

Analysis Batch: 5585

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5602

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09236		mg/Kg		92	70 - 130	8	35
Toluene	0.100	0.09985		mg/Kg		100	70 - 130	2	35
Ethylbenzene	0.100	0.1043		mg/Kg		104	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2097		mg/Kg		105	70 - 130	5	35
o-Xylene	0.100	0.09965		mg/Kg		100	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

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

Lab Sample ID: MB 880-5651/1-A

Matrix: Solid

Analysis Batch: 5658

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5651

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		07/26/21 09:04	07/26/21 12:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 12:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 12:32	1
Total TPH	<50.0	U	50.0	mg/Kg		07/26/21 09:04	07/26/21 12:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	07/26/21 09:04	07/26/21 12:32	1
o-Terphenyl	100		70 - 130	07/26/21 09:04	07/26/21 12:32	1

Lab Sample ID: LCS 880-5651/2-A

Matrix: Solid

Analysis Batch: 5658

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5651

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	861.8		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	1000	958.5		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-5651/3-A

Matrix: Solid

Analysis Batch: 5658

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5651

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	926.1		mg/Kg		93	70 - 130	7	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

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

Lab Sample ID: LCSD 880-5651/3-A

Matrix: Solid

Analysis Batch: 5658

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5651

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	1000	945.8		mg/Kg		95	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: MB 880-5699/1-A

Matrix: Solid

Analysis Batch: 5794

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5699

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		07/27/21 10:38	07/29/21 14:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 14:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 14:13	1
Total TPH	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 14:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	07/27/21 10:38	07/29/21 14:13	1
o-Terphenyl	95		70 - 130	07/27/21 10:38	07/29/21 14:13	1

Lab Sample ID: LCS 880-5699/2-A

Matrix: Solid

Analysis Batch: 5794

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5699

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	775.2		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	1000	881.0		mg/Kg		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: LCSD 880-5699/3-A

Matrix: Solid

Analysis Batch: 5794

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5699

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	933.1		mg/Kg		93	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	1000	1166	*1	mg/Kg		117	70 - 130	28	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	120		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

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

Lab Sample ID: LCSD 880-5699/3-A

Matrix: Solid

Analysis Batch: 5794

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5699

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
<i>o</i> -Terphenyl	123		70 - 130

Lab Sample ID: 890-978-1 MS

Matrix: Solid

Analysis Batch: 5794

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 5699

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	996	1005		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U *1	996	1080		mg/Kg		106	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	109		70 - 130						
<i>o</i> -Terphenyl	103		70 - 130						

Lab Sample ID: 890-978-1 MSD

Matrix: Solid

Analysis Batch: 5794

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 5699

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	996	842.2		mg/Kg		82	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<50.0	U *1	996	934.4		mg/Kg		92	70 - 130	14	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	92		70 - 130								
<i>o</i> -Terphenyl	89		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-5615/1-A

Matrix: Solid

Analysis Batch: 5617

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			07/24/21 17:06	1

Lab Sample ID: LCS 880-5615/2-A

Matrix: Solid

Analysis Batch: 5617

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	269.0		mg/Kg		108	90 - 110

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-5615/3-A

Matrix: Solid

Analysis Batch: 5617

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	269.1		mg/Kg		108	90 - 110	0	20

Lab Sample ID: MB 880-5610/1-A

Matrix: Solid

Analysis Batch: 5647

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			07/26/21 15:40	1

Lab Sample ID: LCS 880-5610/2-A

Matrix: Solid

Analysis Batch: 5647

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Chloride	250	260.9		mg/Kg		104	90 - 110	

Lab Sample ID: LCSD 880-5610/3-A

Matrix: Solid

Analysis Batch: 5647

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	261.1		mg/Kg		104	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

GC VOA

Prep Batch: 5577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-5577/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 5585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-1	BH01	Total/NA	Solid	8021B	5602
890-978-2	BH02	Total/NA	Solid	8021B	5602
890-978-3	BH03	Total/NA	Solid	8021B	5602
890-978-4	BH03A	Total/NA	Solid	8021B	5602
890-978-5	BH04	Total/NA	Solid	8021B	5602
890-978-6	BH05	Total/NA	Solid	8021B	5602
MB 880-5577/5-A	Method Blank	Total/NA	Solid	8021B	5577
MB 880-5602/5-A	Method Blank	Total/NA	Solid	8021B	5602
LCS 880-5602/1-A	Lab Control Sample	Total/NA	Solid	8021B	5602
LCSD 880-5602/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	5602

Prep Batch: 5602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-1	BH01	Total/NA	Solid	5035	
890-978-2	BH02	Total/NA	Solid	5035	
890-978-3	BH03	Total/NA	Solid	5035	
890-978-4	BH03A	Total/NA	Solid	5035	
890-978-5	BH04	Total/NA	Solid	5035	
890-978-6	BH05	Total/NA	Solid	5035	
MB 880-5602/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-5602/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-5602/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 5651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-5	BH04	Total/NA	Solid	8015NM Prep	
890-978-6	BH05	Total/NA	Solid	8015NM Prep	
MB 880-5651/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-5651/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-5651/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 5658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-5	BH04	Total/NA	Solid	8015B NM	5651
890-978-6	BH05	Total/NA	Solid	8015B NM	5651
MB 880-5651/1-A	Method Blank	Total/NA	Solid	8015B NM	5651
LCS 880-5651/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	5651
LCSD 880-5651/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	5651

Prep Batch: 5699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-1	BH01	Total/NA	Solid	8015NM Prep	
890-978-2	BH02	Total/NA	Solid	8015NM Prep	
890-978-3	BH03	Total/NA	Solid	8015NM Prep	
890-978-4	BH03A	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

GC Semi VOA (Continued)

Prep Batch: 5699 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-5699/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-5699/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-5699/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-978-1 MS	BH01	Total/NA	Solid	8015NM Prep	
890-978-1 MSD	BH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 5794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-1	BH01	Total/NA	Solid	8015B NM	5699
890-978-2	BH02	Total/NA	Solid	8015B NM	5699
890-978-3	BH03	Total/NA	Solid	8015B NM	5699
890-978-4	BH03A	Total/NA	Solid	8015B NM	5699
MB 880-5699/1-A	Method Blank	Total/NA	Solid	8015B NM	5699
LCS 880-5699/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	5699
LCSD 880-5699/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	5699
890-978-1 MS	BH01	Total/NA	Solid	8015B NM	5699
890-978-1 MSD	BH01	Total/NA	Solid	8015B NM	5699

HPLC/IC

Leach Batch: 5610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-1	BH01	Soluble	Solid	DI Leach	
890-978-2	BH02	Soluble	Solid	DI Leach	
890-978-3	BH03	Soluble	Solid	DI Leach	
890-978-4	BH03A	Soluble	Solid	DI Leach	
890-978-5	BH04	Soluble	Solid	DI Leach	
MB 880-5610/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5610/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5610/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 5615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-6	BH05	Soluble	Solid	DI Leach	
MB 880-5615/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5615/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5615/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 5617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-6	BH05	Soluble	Solid	300.0	5615
MB 880-5615/1-A	Method Blank	Soluble	Solid	300.0	5615
LCS 880-5615/2-A	Lab Control Sample	Soluble	Solid	300.0	5615
LCSD 880-5615/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5615

Analysis Batch: 5647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-1	BH01	Soluble	Solid	300.0	5610
890-978-2	BH02	Soluble	Solid	300.0	5610
890-978-3	BH03	Soluble	Solid	300.0	5610
890-978-4	BH03A	Soluble	Solid	300.0	5610

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

HPLC/IC (Continued)

Analysis Batch: 5647 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-978-5	BH04	Soluble	Solid	300.0	5610
MB 880-5610/1-A	Method Blank	Soluble	Solid	300.0	5610
LCS 880-5610/2-A	Lab Control Sample	Soluble	Solid	300.0	5610
LCSD 880-5610/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5610

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Client Sample ID: BH01

Lab Sample ID: 890-978-1

Date Collected: 07/22/21 09:45

Matrix: Solid

Date Received: 07/22/21 15:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	5602	07/23/21 14:24	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5585	07/24/21 09:27	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 15:16	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	5610	07/23/21 18:12	SC	XEN MID
Soluble	Analysis	300.0		1			5647	07/26/21 17:54	CH	XEN MID

Client Sample ID: BH02

Lab Sample ID: 890-978-2

Date Collected: 07/22/21 09:30

Matrix: Solid

Date Received: 07/22/21 15:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	5602	07/23/21 14:24	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5585	07/24/21 09:47	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 16:19	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	5610	07/23/21 18:12	SC	XEN MID
Soluble	Analysis	300.0		1			5647	07/26/21 18:00	CH	XEN MID

Client Sample ID: BH03

Lab Sample ID: 890-978-3

Date Collected: 07/22/21 09:15

Matrix: Solid

Date Received: 07/22/21 15:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	5602	07/23/21 14:24	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5585	07/24/21 10:08	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 16:40	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	5610	07/23/21 18:12	SC	XEN MID
Soluble	Analysis	300.0		1			5647	07/26/21 18:05	CH	XEN MID

Client Sample ID: BH03A

Lab Sample ID: 890-978-4

Date Collected: 07/22/21 09:25

Matrix: Solid

Date Received: 07/22/21 15:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	5602	07/23/21 14:24	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5585	07/24/21 10:28	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 17:01	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	5610	07/23/21 18:12	SC	XEN MID
Soluble	Analysis	300.0		1			5647	07/26/21 18:10	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Client Sample ID: BH04

Lab Sample ID: 890-978-5

Date Collected: 07/22/21 09:10

Matrix: Solid

Date Received: 07/22/21 15:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	5602	07/23/21 14:24	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5585	07/24/21 10:48	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	5651	07/26/21 09:04	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5658	07/26/21 21:22	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	5610	07/23/21 18:12	SC	XEN MID
Soluble	Analysis	300.0		5			5647	07/26/21 18:16	CH	XEN MID

Client Sample ID: BH05

Lab Sample ID: 890-978-6

Date Collected: 07/22/21 09:04

Matrix: Solid

Date Received: 07/22/21 15:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	5602	07/23/21 14:24	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5585	07/24/21 11:09	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5651	07/26/21 09:04	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5658	07/26/21 21:43	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	5615	07/23/21 19:13	SC	XEN MID
Soluble	Analysis	300.0		5			5617	07/24/21 17:52	SC	XEN MID

Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Eurofins Xenco, Carlsbad

Method Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

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: Macho Grande 2H

Job ID: 890-978-1
SDG: 31403152.004

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-978-1	BH01	Solid	07/22/21 09:45	07/22/21 15:49	- 0.5
890-978-2	BH02	Solid	07/22/21 09:30	07/22/21 15:49	- 0.5
890-978-3	BH03	Solid	07/22/21 09:15	07/22/21 15:49	- 1
890-978-4	BH03A	Solid	07/22/21 09:25	07/22/21 15:49	- 2
890-978-5	BH04	Solid	07/22/21 09:10	07/22/21 15:49	- 0.5
890-978-6	BH05	Solid	07/22/21 09:04	07/22/21 15:49	- 0.5



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) 233-3927
Hobbs, NM (575-392-7550)

Page 1 of 1

Chain of Custody

Work Order No: _____

Project Manager:	Dan Moir	Bill to: (if different)	
Company Name:	WSP Permian office	Company Name:	
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	Elliot.Lee@wsp.com, Joseph.Hernandez@wsp.com

Work Order Comments									
Program: UST/PST		☐ RP	☐ Growfields	☐ RC	☐ Superfund	☐	☐	☐	☐
State of Project:									
Reporting Level II		☐ Level III	☐ ST/UST	☐ RP	☐ Level IV	☐	☐	☐	☐
Deliverables: EDD		☐	ADAPT	☐	Other:				

Project Name:	Macho Grande 2H	Turn Around		ANALYSIS REQUEST	Work Order Notes
Project Number:	31403152.004	Routine ☒			
P.O. Number:		Rush: ☐			
Sampler's Name:	Elliott Lee	Due Date:			Incident # NAPP2118933045
					

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	15.8/15.6	Thermometer ID					
Received intact:	Yes	No	21111-007				
Cooler Custody Seals:	Yes	No	Correction Factor:				
Sample Custody Seals:	Yes	No	Total Containers:				

Number of Containers

(EPA 8015)

(EPA 0-8021)

de (EPA 300.0)

890-978 Chain of Custody

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		Sp As Ba Be Cd Cr Cu Pb Mn Mo Ni Se Ag Tl U	1634+246+17470+7474+11g

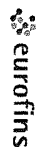
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility 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 		7-22-21 1548			
2					
3					
4					
5					
6					

Revised Date 05/14/18 Rev. 2018

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Chain of Custody Record



Environment Testing
America

Client Information (Sub Contract Lab)				Sampler	Lab PM	Carrier Tracking No(s)	COC No.							
Client Contact		Phone:	E-Mail:	Kramer, Jessica			890-314 1							
Shipping/Receiving		Address		Accreditations Required (See note)		State of Origin	Page							
Company		Eurofins Xenco		NELAP - Louisiana NELAP - Texas		New Mexico	Page 1 of 1							
City		Due Date Requested		Analysis Requested		Job #	890-978-1							
Midland		7/28/2021				Preservation Codes:								
State Zip		TAT Requested (days)				A. HCL M. Hexane								
TX, 79701						B. NaOH N. None								
Phone		PO #				C. Zn Acetate O. AsKiaO2								
432-704-5440(Tel)		W/O #				D. Nitric Acid P. Na2O4S								
Email		Project #:				E. NaHSO4 Q. Na2SO3								
		89000004				F. MeOH R. Na2S2O3								
Project Name:		SSOW#				G. Amchlor S. H2SO4								
Machro Grande 2H						H. Ascorbic Acid T. TSP Dodecylalrate								
Site:						I. Ice U. Acetone								
						J. DI Water V. MCAA								
						K. EDTA W. pH 4.5								
						L. EDA Z. other (Specify)								
						Other:								
Sample Identification - Client ID (Lab ID)				Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=wastefol, BT=Tissue, A=All)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note
BH01 (890-978-1)				7/22/21	09 45	Mountain	Solid	X	X	X			1	
BH02 (890-978-2)				7/22/21	09 30	Mountain	Solid	X	X	X			1	
BH03 (890-978-3)				7/22/21	09 15	Mountain	Solid	X	X	X			1	
BH03A (890-978-4)				7/22/21	09 25	Mountain	Solid	X	X	X			1	
BH04 (890-978-5)				7/22/21	09 10	Mountain	Solid	X	X	X			1	
BH05 (890-978-6)				7/22/21	09 04	Mountain	Solid	X	X	X			1	
Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/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 Special Instructions/QC Requirements														
Empty Kit Relinquished by Date Time Date Time Date Time Method of Shipment														
Relinquished by Date Time Company Received by Date Time Company														
Relinquished by Date Time Company Received by Date Time Company														
Relinquished by Date Time Company Received by Date Time Company														
Custody Seals Intact Custody Seal No Cooler Temperature(s) °C and Other Remarks														
A Yes A No														

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-978-1
SDG Number: 31403152.004Login Number: 978
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: 890-978-1
SDG Number: 31403152.004**Login Number: 978****List Number: 2****Creator: Phillips, Kerianna****List Source: Eurofins Xenco, Midland****List Creation: 07/23/21 02:14 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: 890-979-1

Laboratory Sample Delivery Group: 31403152.004

Client Project/Site: Macho Grande 2H

For:

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

Attn: Kalei Jennings

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

Authorized for release by:
7/30/2021 8:21:09 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: Macho Grande 2H

Laboratory Job ID: 890-979-1
SDG: 31403152.004

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	13
QC Sample Results	14
QC Association Summary	17
Lab Chronicle	20
Certification Summary	23
Method Summary	24
Sample Summary	25
Chain of Custody	26
Receipt Checklists	29

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

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
*1	LCS/LCSD RPD 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: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Job ID: 890-979-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-979-1****Receipt**

The samples were received on 7/22/2021 3:46 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 15.6°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-5699 and analytical batch 880-5794 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28)

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: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH06

Lab Sample ID: 890-979-1

Date Collected: 07/22/21 11:16

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/23/21 19:59	1
Toluene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/23/21 19:59	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/23/21 19:59	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		07/23/21 11:06	07/23/21 19:59	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/23/21 19:59	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		07/23/21 11:06	07/23/21 19:59	1
Total BTEX	<0.00397	U	0.00397	mg/Kg		07/23/21 11:06	07/23/21 19:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	07/23/21 11:06	07/23/21 19:59	1
1,4-Difluorobenzene (Surr)	100		70 - 130	07/23/21 11:06	07/23/21 19:59	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		07/27/21 10:38	07/29/21 17:22	1
Diesel Range Organics (Over C10-C28)	<49.8	U *1	49.8	mg/Kg		07/27/21 10:38	07/29/21 17:22	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		07/27/21 10:38	07/29/21 17:22	1
Total TPH	<49.8	U	49.8	mg/Kg		07/27/21 10:38	07/29/21 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	07/27/21 10:38	07/29/21 17:22	1
o-Terphenyl	117		70 - 130	07/27/21 10:38	07/29/21 17:22	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	290		5.04	mg/Kg			07/28/21 01:30	1

Client Sample ID: BH07

Lab Sample ID: 890-979-2

Date Collected: 07/22/21 11:13

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/23/21 20:25	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/23/21 20:25	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/23/21 20:25	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		07/23/21 11:06	07/23/21 20:25	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/23/21 20:25	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		07/23/21 11:06	07/23/21 20:25	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		07/23/21 11:06	07/23/21 20:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130	07/23/21 11:06	07/23/21 20:25	1
1,4-Difluorobenzene (Surr)	101		70 - 130	07/23/21 11:06	07/23/21 20:25	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH07

Lab Sample ID: 890-979-2

Date Collected: 07/22/21 11:13

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7	mg/Kg		07/27/21 10:38	07/29/21 17:44	1
Diesel Range Organics (Over C10-C28)	<49.7	U *1	49.7	mg/Kg		07/27/21 10:38	07/29/21 17:44	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		07/27/21 10:38	07/29/21 17:44	1
Total TPH	<49.7	U	49.7	mg/Kg		07/27/21 10:38	07/29/21 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	07/27/21 10:38	07/29/21 17:44	1
o-Terphenyl	99		70 - 130	07/27/21 10:38	07/29/21 17:44	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	307		5.02	mg/Kg			07/28/21 01:36	1

Client Sample ID: BH08

Lab Sample ID: 890-979-3

Date Collected: 07/22/21 11:20

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/23/21 22:06	1
Toluene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/23/21 22:06	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/23/21 22:06	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		07/23/21 11:06	07/23/21 22:06	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/23/21 22:06	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		07/23/21 11:06	07/23/21 22:06	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		07/23/21 11:06	07/23/21 22:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	143	S1+	70 - 130	07/23/21 11:06	07/23/21 22:06	1
1,4-Difluorobenzene (Surr)	83		70 - 130	07/23/21 11:06	07/23/21 22:06	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		07/27/21 10:38	07/29/21 18:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		07/27/21 10:38	07/29/21 18:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 18:04	1
Total TPH	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	07/27/21 10:38	07/29/21 18:04	1
o-Terphenyl	114		70 - 130	07/27/21 10:38	07/29/21 18:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	68.5		5.05	mg/Kg			07/28/21 01:41	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH09

Lab Sample ID: 890-979-4

Date Collected: 07/22/21 11:04

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		07/23/21 11:06	07/23/21 22:31	1
Toluene	0.00474		0.00202	mg/Kg		07/23/21 11:06	07/23/21 22:31	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		07/23/21 11:06	07/23/21 22:31	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		07/23/21 11:06	07/23/21 22:31	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		07/23/21 11:06	07/23/21 22:31	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		07/23/21 11:06	07/23/21 22:31	1
Total BTEX	0.00474		0.00403	mg/Kg		07/23/21 11:06	07/23/21 22:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	134	S1+	70 - 130	07/23/21 11:06	07/23/21 22:31	1
1,4-Difluorobenzene (Surr)	99		70 - 130	07/23/21 11:06	07/23/21 22:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 18:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		07/27/21 10:38	07/29/21 18:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 18:26	1
Total TPH	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	07/27/21 10:38	07/29/21 18:26	1
o-Terphenyl	108		70 - 130	07/27/21 10:38	07/29/21 18:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	312		5.05	mg/Kg			07/28/21 01:46	1

Client Sample ID: BH10

Lab Sample ID: 890-979-5

Date Collected: 07/22/21 12:45

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		07/23/21 11:06	07/23/21 22:57	1
Toluene	<0.00199	U	0.00199	mg/Kg		07/23/21 11:06	07/23/21 22:57	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		07/23/21 11:06	07/23/21 22:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		07/23/21 11:06	07/23/21 22:57	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		07/23/21 11:06	07/23/21 22:57	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		07/23/21 11:06	07/23/21 22:57	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		07/23/21 11:06	07/23/21 22:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130	07/23/21 11:06	07/23/21 22:57	1
1,4-Difluorobenzene (Surr)	100		70 - 130	07/23/21 11:06	07/23/21 22:57	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH10

Lab Sample ID: 890-979-5

Date Collected: 07/22/21 12:45

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 18:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		07/27/21 10:38	07/29/21 18:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 18:47	1
Total TPH	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88		70 - 130	07/27/21 10:38	07/29/21 18:47	1
o-Terphenyl	91		70 - 130	07/27/21 10:38	07/29/21 18:47	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97.6		5.05	mg/Kg			07/28/21 01:52	1

Client Sample ID: BH11

Lab Sample ID: 890-979-6

Date Collected: 07/22/21 11:24

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		07/23/21 11:06	07/23/21 23:22	1
Toluene	<0.00201	U	0.00201	mg/Kg		07/23/21 11:06	07/23/21 23:22	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		07/23/21 11:06	07/23/21 23:22	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		07/23/21 11:06	07/23/21 23:22	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		07/23/21 11:06	07/23/21 23:22	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		07/23/21 11:06	07/23/21 23:22	1
Total BTEX	<0.00402	U	0.00402	mg/Kg		07/23/21 11:06	07/23/21 23:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	146	S1+	70 - 130	07/23/21 11:06	07/23/21 23:22	1
1,4-Difluorobenzene (Surr)	115		70 - 130	07/23/21 11:06	07/23/21 23:22	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		07/27/21 10:38	07/29/21 19:08	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		07/27/21 10:38	07/29/21 19:08	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 19:08	1
Total TPH	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	07/27/21 10:38	07/29/21 19:08	1
o-Terphenyl	104		70 - 130	07/27/21 10:38	07/29/21 19:08	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.4		5.05	mg/Kg			07/28/21 01:57	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH11A

Lab Sample ID: 890-979-7

Date Collected: 07/22/21 11:27

Matrix: Solid

Date Received: 07/22/21 15:46

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		07/23/21 11:06	07/23/21 23:47	1
Toluene	<0.00199	U	0.00199	mg/Kg		07/23/21 11:06	07/23/21 23:47	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		07/23/21 11:06	07/23/21 23:47	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		07/23/21 11:06	07/23/21 23:47	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		07/23/21 11:06	07/23/21 23:47	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		07/23/21 11:06	07/23/21 23:47	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		07/23/21 11:06	07/23/21 23:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	139	S1+	70 - 130	07/23/21 11:06	07/23/21 23:47	1
1,4-Difluorobenzene (Surr)	101		70 - 130	07/23/21 11:06	07/23/21 23:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 19:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		07/27/21 10:38	07/29/21 19:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 19:49	1
Total TPH	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	07/27/21 10:38	07/29/21 19:49	1
o-Terphenyl	99		70 - 130	07/27/21 10:38	07/29/21 19:49	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19.7		4.95	mg/Kg			07/24/21 17:58	1

Client Sample ID: BH12

Lab Sample ID: 890-979-8

Date Collected: 07/22/21 11:26

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/24/21 00:13	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/24/21 00:13	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/24/21 00:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/23/21 11:06	07/24/21 00:13	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/24/21 00:13	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/23/21 11:06	07/24/21 00:13	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		07/23/21 11:06	07/24/21 00:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	147	S1+	70 - 130	07/23/21 11:06	07/24/21 00:13	1
1,4-Difluorobenzene (Surr)	104		70 - 130	07/23/21 11:06	07/24/21 00:13	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH12

Lab Sample ID: 890-979-8

Date Collected: 07/22/21 11:26

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 20:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U *1	50.0	mg/Kg		07/27/21 10:38	07/29/21 20:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 20:10	1
Total TPH	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	07/27/21 10:38	07/29/21 20:10	1
o-Terphenyl	102		70 - 130	07/27/21 10:38	07/29/21 20:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120		4.95	mg/Kg			07/24/21 18:05	1

Client Sample ID: BH12A

Lab Sample ID: 890-979-9

Date Collected: 07/22/21 11:39

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/24/21 00:38	1
Toluene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/24/21 00:38	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/24/21 00:38	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		07/23/21 11:06	07/24/21 00:38	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		07/23/21 11:06	07/24/21 00:38	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		07/23/21 11:06	07/24/21 00:38	1
Total BTEX	<0.00396	U	0.00396	mg/Kg		07/23/21 11:06	07/24/21 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	143	S1+	70 - 130	07/23/21 11:06	07/24/21 00:38	1
1,4-Difluorobenzene (Surr)	103		70 - 130	07/23/21 11:06	07/24/21 00:38	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		07/27/21 10:38	07/29/21 20:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		07/27/21 10:38	07/29/21 20:31	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 20:31	1
Total TPH	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 20:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	07/27/21 10:38	07/29/21 20:31	1
o-Terphenyl	108		70 - 130	07/27/21 10:38	07/29/21 20:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	209		4.96	mg/Kg			07/24/21 18:24	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH13

Lab Sample ID: 890-979-10

Date Collected: 07/22/21 12:58

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		07/23/21 11:06	07/24/21 01:03	1
Toluene	<0.00202	U	0.00202	mg/Kg		07/23/21 11:06	07/24/21 01:03	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		07/23/21 11:06	07/24/21 01:03	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		07/23/21 11:06	07/24/21 01:03	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		07/23/21 11:06	07/24/21 01:03	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		07/23/21 11:06	07/24/21 01:03	1
Total BTEX	<0.00404	U	0.00404	mg/Kg		07/23/21 11:06	07/24/21 01:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	07/23/21 11:06	07/24/21 01:03	1
1,4-Difluorobenzene (Surr)	95		70 - 130	07/23/21 11:06	07/24/21 01:03	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		07/27/21 10:38	07/29/21 20:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		07/27/21 10:38	07/29/21 20:52	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 20:52	1
Total TPH	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 20:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	07/27/21 10:38	07/29/21 20:52	1
o-Terphenyl	95		70 - 130	07/27/21 10:38	07/29/21 20:52	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	92.7		5.03	mg/Kg			07/26/21 13:02	1

Client Sample ID: BH13A

Lab Sample ID: 890-979-11

Date Collected: 07/22/21 13:01

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/24/21 01:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/24/21 01:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/24/21 01:29	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		07/23/21 11:06	07/24/21 01:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/24/21 01:29	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		07/23/21 11:06	07/24/21 01:29	1
Total BTEX	<0.00401	U	0.00401	mg/Kg		07/23/21 11:06	07/24/21 01:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	07/23/21 11:06	07/24/21 01:29	1
1,4-Difluorobenzene (Surr)	99		70 - 130	07/23/21 11:06	07/24/21 01:29	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH13A

Lab Sample ID: 890-979-11

Date Collected: 07/22/21 13:01

Matrix: Solid

Date Received: 07/22/21 15:46

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 21:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		07/27/21 10:38	07/29/21 21:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 21:13	1
Total TPH	<49.9	U	49.9	mg/Kg		07/27/21 10:38	07/29/21 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	07/27/21 10:38	07/29/21 21:13	1
o-Terphenyl	101		70 - 130	07/27/21 10:38	07/29/21 21:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.8		5.02	mg/Kg			07/26/21 13:08	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

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)
890-979-1	BH06	128	100
890-979-2	BH07	131 S1+	101
890-979-3	BH08	143 S1+	83
890-979-4	BH09	134 S1+	99
890-979-5	BH10	136 S1+	100
890-979-6	BH11	146 S1+	115
890-979-7	BH11A	139 S1+	101
890-979-8	BH12	147 S1+	104
890-979-9	BH12A	143 S1+	103
890-979-10	BH13	126	95
890-979-11	BH13A	127	99
LCS 880-5584/1-A	Lab Control Sample	117	101
LCSD 880-5584/2-A	Lab Control Sample Dup	122	98
MB 880-5584/5-A	Method Blank	86	81
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)
890-979-1	BH06	107	117
890-979-2	BH07	91	99
890-979-3	BH08	112	114
890-979-4	BH09	104	108
890-979-5	BH10	88	91
890-979-6	BH11	101	104
890-979-7	BH11A	92	99
890-979-8	BH12	94	102
890-979-9	BH12A	102	108
890-979-10	BH13	85	95
890-979-11	BH13A	95	101
LCS 880-5699/2-A	Lab Control Sample	93	94
LCSD 880-5699/3-A	Lab Control Sample Dup	120	123
MB 880-5699/1-A	Method Blank	85	95
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-5584/5-A

Matrix: Solid

Analysis Batch: 5586

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5584

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/23/21 16:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/23/21 16:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/23/21 16:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/23/21 11:06	07/23/21 16:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/21 11:06	07/23/21 16:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/23/21 11:06	07/23/21 16:14	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		07/23/21 11:06	07/23/21 16:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	07/23/21 11:06	07/23/21 16:14	1
1,4-Difluorobenzene (Surr)	81		70 - 130	07/23/21 11:06	07/23/21 16:14	1

Lab Sample ID: LCS 880-5584/1-A

Matrix: Solid

Analysis Batch: 5586

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5584

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1190		mg/Kg		119	70 - 130
Toluene	0.100	0.1171		mg/Kg		117	70 - 130
Ethylbenzene	0.100	0.1285		mg/Kg		129	70 - 130
m-Xylene & p-Xylene	0.200	0.2272		mg/Kg		114	70 - 130
o-Xylene	0.100	0.1133		mg/Kg		113	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: LCSD 880-5584/2-A

Matrix: Solid

Analysis Batch: 5586

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5584

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1142		mg/Kg		114	70 - 130	4	35
Toluene	0.100	0.1042		mg/Kg		104	70 - 130	12	35
Ethylbenzene	0.100	0.1211		mg/Kg		121	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.2118		mg/Kg		106	70 - 130	7	35
o-Xylene	0.100	0.1049		mg/Kg		105	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

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

Lab Sample ID: MB 880-5699/1-A

Matrix: Solid

Analysis Batch: 5794

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 5699

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		07/27/21 10:38	07/29/21 14:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 14:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 14:13	1
Total TPH	<50.0	U	50.0	mg/Kg		07/27/21 10:38	07/29/21 14:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	07/27/21 10:38	07/29/21 14:13	1
o-Terphenyl	95		70 - 130	07/27/21 10:38	07/29/21 14:13	1

Lab Sample ID: LCS 880-5699/2-A

Matrix: Solid

Analysis Batch: 5794

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 5699

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	775.2		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	1000	881.0		mg/Kg		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: LCSD 880-5699/3-A

Matrix: Solid

Analysis Batch: 5794

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 5699

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	933.1		mg/Kg		93	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	1000	1166	*1	mg/Kg		117	70 - 130	28	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	120		70 - 130
o-Terphenyl	123		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-5615/1-A

Matrix: Solid

Analysis Batch: 5617

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			07/24/21 17:06	1

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QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-5615/2-A

Matrix: Solid

Analysis Batch: 5617

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	269.0		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-5615/3-A

Matrix: Solid

Analysis Batch: 5617

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	269.1		mg/Kg		108	90 - 110	0	20

Lab Sample ID: MB 880-5609/1-A

Matrix: Solid

Analysis Batch: 5646

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			07/27/21 23:16	1

Lab Sample ID: LCS 880-5609/2-A

Matrix: Solid

Analysis Batch: 5646

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	266.3		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-5609/3-A

Matrix: Solid

Analysis Batch: 5646

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	267.1		mg/Kg		107	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

GC VOA

Prep Batch: 5584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-979-1	BH06	Total/NA	Solid	5035	
890-979-2	BH07	Total/NA	Solid	5035	
890-979-3	BH08	Total/NA	Solid	5035	
890-979-4	BH09	Total/NA	Solid	5035	
890-979-5	BH10	Total/NA	Solid	5035	
890-979-6	BH11	Total/NA	Solid	5035	
890-979-7	BH11A	Total/NA	Solid	5035	
890-979-8	BH12	Total/NA	Solid	5035	
890-979-9	BH12A	Total/NA	Solid	5035	
890-979-10	BH13	Total/NA	Solid	5035	
890-979-11	BH13A	Total/NA	Solid	5035	
MB 880-5584/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-5584/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-5584/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 5586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-979-1	BH06	Total/NA	Solid	8021B	5584
890-979-2	BH07	Total/NA	Solid	8021B	5584
890-979-3	BH08	Total/NA	Solid	8021B	5584
890-979-4	BH09	Total/NA	Solid	8021B	5584
890-979-5	BH10	Total/NA	Solid	8021B	5584
890-979-6	BH11	Total/NA	Solid	8021B	5584
890-979-7	BH11A	Total/NA	Solid	8021B	5584
890-979-8	BH12	Total/NA	Solid	8021B	5584
890-979-9	BH12A	Total/NA	Solid	8021B	5584
890-979-10	BH13	Total/NA	Solid	8021B	5584
890-979-11	BH13A	Total/NA	Solid	8021B	5584
MB 880-5584/5-A	Method Blank	Total/NA	Solid	8021B	5584
LCS 880-5584/1-A	Lab Control Sample	Total/NA	Solid	8021B	5584
LCSD 880-5584/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	5584

GC Semi VOA

Prep Batch: 5699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-979-1	BH06	Total/NA	Solid	8015NM Prep	
890-979-2	BH07	Total/NA	Solid	8015NM Prep	
890-979-3	BH08	Total/NA	Solid	8015NM Prep	
890-979-4	BH09	Total/NA	Solid	8015NM Prep	
890-979-5	BH10	Total/NA	Solid	8015NM Prep	
890-979-6	BH11	Total/NA	Solid	8015NM Prep	
890-979-7	BH11A	Total/NA	Solid	8015NM Prep	
890-979-8	BH12	Total/NA	Solid	8015NM Prep	
890-979-9	BH12A	Total/NA	Solid	8015NM Prep	
890-979-10	BH13	Total/NA	Solid	8015NM Prep	
890-979-11	BH13A	Total/NA	Solid	8015NM Prep	
MB 880-5699/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-5699/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-5699/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

GC Semi VOA

Analysis Batch: 5794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-979-1	BH06	Total/NA	Solid	8015B NM	5699
890-979-2	BH07	Total/NA	Solid	8015B NM	5699
890-979-3	BH08	Total/NA	Solid	8015B NM	5699
890-979-4	BH09	Total/NA	Solid	8015B NM	5699
890-979-5	BH10	Total/NA	Solid	8015B NM	5699
890-979-6	BH11	Total/NA	Solid	8015B NM	5699
890-979-7	BH11A	Total/NA	Solid	8015B NM	5699
890-979-8	BH12	Total/NA	Solid	8015B NM	5699
890-979-9	BH12A	Total/NA	Solid	8015B NM	5699
890-979-10	BH13	Total/NA	Solid	8015B NM	5699
890-979-11	BH13A	Total/NA	Solid	8015B NM	5699
MB 880-5699/1-A	Method Blank	Total/NA	Solid	8015B NM	5699
LCS 880-5699/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	5699
LCSD 880-5699/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	5699

HPLC/IC

Leach Batch: 5609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-979-1	BH06	Soluble	Solid	DI Leach	
890-979-2	BH07	Soluble	Solid	DI Leach	
890-979-3	BH08	Soluble	Solid	DI Leach	
890-979-4	BH09	Soluble	Solid	DI Leach	
890-979-5	BH10	Soluble	Solid	DI Leach	
890-979-6	BH11	Soluble	Solid	DI Leach	
MB 880-5609/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5609/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5609/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 5615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-979-7	BH11A	Soluble	Solid	DI Leach	
890-979-8	BH12	Soluble	Solid	DI Leach	
890-979-9	BH12A	Soluble	Solid	DI Leach	
890-979-10	BH13	Soluble	Solid	DI Leach	
890-979-11	BH13A	Soluble	Solid	DI Leach	
MB 880-5615/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-5615/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-5615/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 5617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-979-7	BH11A	Soluble	Solid	300.0	5615
890-979-8	BH12	Soluble	Solid	300.0	5615
890-979-9	BH12A	Soluble	Solid	300.0	5615
890-979-10	BH13	Soluble	Solid	300.0	5615
890-979-11	BH13A	Soluble	Solid	300.0	5615
MB 880-5615/1-A	Method Blank	Soluble	Solid	300.0	5615
LCS 880-5615/2-A	Lab Control Sample	Soluble	Solid	300.0	5615
LCSD 880-5615/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5615

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

HPLC/IC

Analysis Batch: 5646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-979-1	BH06	Soluble	Solid	300.0	5609
890-979-2	BH07	Soluble	Solid	300.0	5609
890-979-3	BH08	Soluble	Solid	300.0	5609
890-979-4	BH09	Soluble	Solid	300.0	5609
890-979-5	BH10	Soluble	Solid	300.0	5609
890-979-6	BH11	Soluble	Solid	300.0	5609
MB 880-5609/1-A	Method Blank	Soluble	Solid	300.0	5609
LCS 880-5609/2-A	Lab Control Sample	Soluble	Solid	300.0	5609
LCSD 880-5609/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	5609

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH06

Lab Sample ID: 890-979-1

Date Collected: 07/22/21 11:16

Matrix: Solid

Date Received: 07/22/21 15:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/23/21 19:59	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 17:22	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	5609	07/23/21 18:09	SC	XEN MID
Soluble	Analysis	300.0		1			5646	07/28/21 01:30	CH	XEN MID

Client Sample ID: BH07

Lab Sample ID: 890-979-2

Date Collected: 07/22/21 11:13

Matrix: Solid

Date Received: 07/22/21 15:46

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	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/23/21 20:25	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 17:44	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	5609	07/23/21 18:09	SC	XEN MID
Soluble	Analysis	300.0		1			5646	07/28/21 01:36	CH	XEN MID

Client Sample ID: BH08

Lab Sample ID: 890-979-3

Date Collected: 07/22/21 11:20

Matrix: Solid

Date Received: 07/22/21 15:46

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	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/23/21 22:06	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 18:04	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	5609	07/23/21 18:09	SC	XEN MID
Soluble	Analysis	300.0		1			5646	07/28/21 01:41	CH	XEN MID

Client Sample ID: BH09

Lab Sample ID: 890-979-4

Date Collected: 07/22/21 11:04

Matrix: Solid

Date Received: 07/22/21 15:46

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	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/23/21 22:31	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 18:26	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	5609	07/23/21 18:09	SC	XEN MID
Soluble	Analysis	300.0		1			5646	07/28/21 01:46	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH10

Lab Sample ID: 890-979-5

Date Collected: 07/22/21 12:45

Matrix: Solid

Date Received: 07/22/21 15:46

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	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/23/21 22:57	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 18:47	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	5609	07/23/21 18:09	SC	XEN MID
Soluble	Analysis	300.0		1			5646	07/28/21 01:52	CH	XEN MID

Client Sample ID: BH11

Lab Sample ID: 890-979-6

Date Collected: 07/22/21 11:24

Matrix: Solid

Date Received: 07/22/21 15:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/23/21 23:22	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 19:08	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	5609	07/23/21 18:09	SC	XEN MID
Soluble	Analysis	300.0		1			5646	07/28/21 01:57	CH	XEN MID

Client Sample ID: BH11A

Lab Sample ID: 890-979-7

Date Collected: 07/22/21 11:27

Matrix: Solid

Date Received: 07/22/21 15:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/23/21 23:47	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 19:49	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	5615	07/23/21 19:13	SC	XEN MID
Soluble	Analysis	300.0		1			5617	07/24/21 17:58	SC	XEN MID

Client Sample ID: BH12

Lab Sample ID: 890-979-8

Date Collected: 07/22/21 11:26

Matrix: Solid

Date Received: 07/22/21 15:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/24/21 00:13	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 20:10	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	5615	07/23/21 19:13	SC	XEN MID
Soluble	Analysis	300.0		1			5617	07/24/21 18:05	SC	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Client Sample ID: BH12A

Lab Sample ID: 890-979-9

Date Collected: 07/22/21 11:39

Matrix: Solid

Date Received: 07/22/21 15:46

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	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/24/21 00:38	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 20:31	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	5615	07/23/21 19:13	SC	XEN MID
Soluble	Analysis	300.0		1			5617	07/24/21 18:24	SC	XEN MID

Client Sample ID: BH13

Lab Sample ID: 890-979-10

Date Collected: 07/22/21 12:58

Matrix: Solid

Date Received: 07/22/21 15:46

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	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/24/21 01:03	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 20:52	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	5615	07/23/21 19:13	SC	XEN MID
Soluble	Analysis	300.0		1			5617	07/26/21 13:02	SC	XEN MID

Client Sample ID: BH13A

Lab Sample ID: 890-979-11

Date Collected: 07/22/21 13:01

Matrix: Solid

Date Received: 07/22/21 15:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	5584	07/23/21 11:06	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	5586	07/24/21 01:29	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	5699	07/27/21 10:38	DM	XEN MID
Total/NA	Analysis	8015B NM		1			5794	07/29/21 21:13	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	5615	07/23/21 19:13	SC	XEN MID
Soluble	Analysis	300.0		1			5617	07/26/21 13:08	SC	XEN MID

Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-979-1
SDG: 31403152.004

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-979-1	BH06	Solid	07/22/21 11:16	07/22/21 15:46	- 0.5
890-979-2	BH07	Solid	07/22/21 11:13	07/22/21 15:46	- 0.5
890-979-3	BH08	Solid	07/22/21 11:20	07/22/21 15:46	- 0.5
890-979-4	BH09	Solid	07/22/21 11:04	07/22/21 15:46	- 0.5
890-979-5	BH10	Solid	07/22/21 12:45	07/22/21 15:46	- 0.5
890-979-6	BH11	Solid	07/22/21 11:24	07/22/21 15:46	- 0.5
890-979-7	BH11A	Solid	07/22/21 11:27	07/22/21 15:46	- 1
890-979-8	BH12	Solid	07/22/21 11:26	07/22/21 15:46	- 0.5
890-979-9	BH12A	Solid	07/22/21 11:39	07/22/21 15:46	- 1
890-979-10	BH13	Solid	07/22/21 12:58	07/22/21 15:46	- 0.5
890-979-11	BH13A	Solid	07/22/21 13:01	07/22/21 15:46	- 1



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

Chain of Custody

Work Order No. _____

www.xenco.com Page 1 of 2

Project Manager:	Dan Moir	Bill to: (if different)	
Company Name:	WSP Permian office	Company Name:	
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	Elliott.Lee@wsp.com, Joseph.Hernandez@wsp.com

Project Name:	Macho Grande 2H	Turn Around	
Project Number:	31403152.004	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Elliott Lee	Due Date:	

Sample Identification				Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)	Sample Comments											
BH06				S	7/22/2021	11:16	0.5'	1	X	X	X	DISCRETE											
BH07				S	7/22/2021	11:13	0.5'	1	X	X	X	DISCRETE											
BH08				S	7/22/2021	11:20	0.5'	1	X	X	X	DISCRETE											
BH09				S	7/22/2021	11:04	0.5'	1	X	X	X	DISCRETE											
BH10				S	7/22/2021	12:45	0.5'	1	X	X	X	DISCRETE											
BH11				S	7/22/2021	11:24	0.5'	1	X	X	X	DISCRETE											
BH11A				S	7/22/2021	11:27	1'	1	X	X	X	DISCRETE											
BH12				S	7/22/2021	11:26	0.5'	1	X	X	X	DISCRETE											
BH12A				S	7/22/2021	11:39	1'	1	X	X	X	DISCRETE											
BH13				S	7/22/2021	12:58	0.5'	1	X	X	X	DISCRETE											



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) 291-1111
Hobbs, NM (575-392-7550)

Chain of Custody

Work Order No:

www.xenco.com Page 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	
Company Name:	WSP Permian office	Company Name:	
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	Elliot.Lee@wsp.com, Joseph.Hernandez@wsp.com

Work Order Comments	
Program: UST/ST	☐ RP ☐ Growfields ☐ RC ☐ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ PT/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD	☐ ADaPT ☐ Other: ☐

Project Name:	Machio Grande 2H	Turn Around
Project Number:	31403152.004	Routine ☒
P.O. Number:		Rush:
Sampler's Name:	Elliot Lee	Due Date:

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	15.8 / 15.6		☒	☒		☒	☒
Received intact:	Yes ☒ No	Thermometer ID	2MM-037				
Cooler Custody Seals:	Yes ☒ No	N/A	Correction Factor: -0.2				
Sample Custody Seals:	Yes ☒ No	N/A	Total Containers:				

ANALYSIS REQUEST							Work Order Notes
Number of Containers							
EPA 8015)							
EPA 0=8021)							
le (EPA 300.0)							
Incident # NAPP2118933045						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 Pb Mn Mo Ni Se Ag Tl U	1631/246.1-7470-7471-119

Notwithstanding to whom 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
		7-22-21 1546			

Download Date: 05/14/18 04:18 PM

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Eurofins Xenco, Carlsbad

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

Chain of Custody Record



eurofins

Environment Testing
America

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No					
Client Contact	Phone	Kramer Jessica			890-314 1					
Shipping/Receiving	E-Mail	Jessica.kramer@eurofins.com	State of Origin		Page 1 of 2					
Company	Accreditations Required (See note)	NE/LAP - Louisiana, NE/LAP - Texas	New Mexico							
Eurofins Xenco	Due Date Requested	7/28/2021								
Address	TAT Requested (days)									
1211 W Florida Ave										
City										
Midland										
State Zip:										
TX, 79701										
Phone:	PO #:									
432-704-5440(Tel)										
Email:	WFO #:									
Project Name	Project #:									
Macho Grande 2H	89000004									
Site:	SSOW#:									
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of containers	Special Instructions/Note:
BH06 (890-979-1)	7/22/21	11 16	Mountain	Solid		X	X	X		
BH07 (890-979-2)	7/22/21	11 13	Mountain	Solid		X	X	X		
BH08 (890-979-3)	7/22/21	11 20	Mountain	Solid		X	X	X		
BH09 (890-979-4)	7/22/21	11 04	Mountain	Solid		X	X	X		
BH10 (890-979-5)	7/22/21	12 45	Mountain	Solid		X	X	X		
BH11 (890-979-6)	7/22/21	11 24	Mountain	Solid		X	X	X		
BH11A (890-979-7)	7/22/21	11 27	Mountain	Solid		X	X	X		
BH12 (890-979-8)	7/22/21	11 26	Mountain	Solid		X	X	X		
BH12A (890-979-9)	7/22/21	11 39	Mountain	Solid		X	X	X		
Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon our subcontracted 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	☐ Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months								
Empty Kit Relinquished by	Date	Time	Method of Shipment							
Relinquished by	Date/Time	Company	Received by							
Relinquished by	Date/Time	Company	Received by							
Relinquished by	Date/Time	Company	Received by							
Custody Seals Intact:	Custody Seal No	Cooler Temperature(s) °C and Other Remarks								
Δ Yes Δ No										

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-979-1

SDG Number: 31403152.004

Login Number: 979

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Xenco, Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-979-1

SDG Number: 31403152.004

Login Number: 979

List Number: 2

Creator: Phillips, Kerianna

List Source: Eurofins Xenco, Midland

List Creation: 07/23/21 02:13 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: 890-1078-1

Laboratory Sample Delivery Group: Eddy County NM
Client Project/Site: Macho Grande 2H

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:
8/13/2021 10:47:58 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: Macho Grande 2H

Laboratory Job ID: 890-1078-1
SDG: Eddy County NM

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	17
Lab Chronicle	20
Certification Summary	23
Method Summary	24
Sample Summary	25
Chain of Custody	26
Receipt Checklists	28

1

2

3

4

5

6

7

8

9

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Job ID: 890-1078-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1078-1

Receipt

The samples were received on 8/9/2021 5:01 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 0.4°C

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Client Sample ID: BH01

Lab Sample ID: 890-1078-1

Date Collected: 08/09/21 13:15

Matrix: Solid

Date Received: 08/09/21 17:01

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		08/11/21 09:21	08/12/21 12:52	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:21	08/12/21 12:52	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:21	08/12/21 12:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/11/21 09:21	08/12/21 12:52	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:21	08/12/21 12:52	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/11/21 09:21	08/12/21 12:52	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/11/21 09:21	08/12/21 12:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	205	S1+	70 - 130	08/11/21 09:21	08/12/21 12:52	1
1,4-Difluorobenzene (Surr)	95		70 - 130	08/11/21 09:21	08/12/21 12:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/11/21 15:10	08/12/21 12:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 15:10	08/12/21 12:05	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 15:10	08/12/21 12:05	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 15:10	08/12/21 12:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	08/11/21 15:10	08/12/21 12:05	1
o-Terphenyl	111		70 - 130	08/11/21 15:10	08/12/21 12:05	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	181		5.04	mg/Kg			08/12/21 06:36	1

Client Sample ID: BH02

Lab Sample ID: 890-1078-2

Date Collected: 08/09/21 12:50

Matrix: Solid

Date Received: 08/09/21 17:01

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 13:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 13:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 13:17	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		08/11/21 09:21	08/12/21 13:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 13:17	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		08/11/21 09:21	08/12/21 13:17	1
Total BTEX	<0.00401	U	0.00401	mg/Kg		08/11/21 09:21	08/12/21 13:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	192	S1+	70 - 130	08/11/21 09:21	08/12/21 13:17	1
1,4-Difluorobenzene (Surr)	129		70 - 130	08/11/21 09:21	08/12/21 13:17	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Client Sample ID: BH02

Lab Sample ID: 890-1078-2

Date Collected: 08/09/21 12:50

Matrix: Solid

Date Received: 08/09/21 17:01

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 13:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 13:06	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 13:06	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 13:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	08/11/21 15:10	08/12/21 13:06	1
o-Terphenyl	111		70 - 130	08/11/21 15:10	08/12/21 13:06	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	156		5.00	mg/Kg			08/12/21 06:42	1

Client Sample ID: BH04

Lab Sample ID: 890-1078-3

Date Collected: 08/09/21 08:25

Matrix: Solid

Date Received: 08/09/21 17:01

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		08/11/21 09:21	08/12/21 13:43	1
Toluene	<0.00201	U	0.00201	mg/Kg		08/11/21 09:21	08/12/21 13:43	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		08/11/21 09:21	08/12/21 13:43	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		08/11/21 09:21	08/12/21 13:43	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		08/11/21 09:21	08/12/21 13:43	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		08/11/21 09:21	08/12/21 13:43	1
Total BTEX	<0.00402	U	0.00402	mg/Kg		08/11/21 09:21	08/12/21 13:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	191	S1+	70 - 130	08/11/21 09:21	08/12/21 13:43	1
1,4-Difluorobenzene (Surr)	139	S1+	70 - 130	08/11/21 09:21	08/12/21 13:43	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		08/11/21 15:10	08/12/21 13:26	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 13:26	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 13:26	1
Total TPH	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 13:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	08/11/21 15:10	08/12/21 13:26	1
o-Terphenyl	112		70 - 130	08/11/21 15:10	08/12/21 13:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		5.00	mg/Kg			08/12/21 06:47	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Client Sample ID: BH05

Lab Sample ID: 890-1078-4

Date Collected: 08/09/21 10:30

Matrix: Solid

Date Received: 08/09/21 17:01

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		08/11/21 09:21	08/12/21 14:09	1
Toluene	<0.00201	U	0.00201	mg/Kg		08/11/21 09:21	08/12/21 14:09	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		08/11/21 09:21	08/12/21 14:09	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		08/11/21 09:21	08/12/21 14:09	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		08/11/21 09:21	08/12/21 14:09	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		08/11/21 09:21	08/12/21 14:09	1
Total BTEX	<0.00402	U	0.00402	mg/Kg		08/11/21 09:21	08/12/21 14:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	194	S1+	70 - 130	08/11/21 09:21	08/12/21 14:09	1
1,4-Difluorobenzene (Surr)	134	S1+	70 - 130	08/11/21 09:21	08/12/21 14:09	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		08/11/21 15:10	08/12/21 13:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 13:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 13:47	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 13:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	08/11/21 15:10	08/12/21 13:47	1
o-Terphenyl	105		70 - 130	08/11/21 15:10	08/12/21 13:47	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	85.6		4.97	mg/Kg			08/12/21 06:53	1

Client Sample ID: BH06

Lab Sample ID: 890-1078-5

Date Collected: 08/09/21 13:38

Matrix: Solid

Date Received: 08/09/21 17:01

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		08/11/21 09:21	08/12/21 14:34	1
Toluene	<0.00202	U	0.00202	mg/Kg		08/11/21 09:21	08/12/21 14:34	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		08/11/21 09:21	08/12/21 14:34	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		08/11/21 09:21	08/12/21 14:34	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		08/11/21 09:21	08/12/21 14:34	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		08/11/21 09:21	08/12/21 14:34	1
Total BTEX	<0.00403	U	0.00403	mg/Kg		08/11/21 09:21	08/12/21 14:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	198	S1+	70 - 130	08/11/21 09:21	08/12/21 14:34	1
1,4-Difluorobenzene (Surr)	137	S1+	70 - 130	08/11/21 09:21	08/12/21 14:34	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Client Sample ID: BH06

Lab Sample ID: 890-1078-5

Date Collected: 08/09/21 13:38

Matrix: Solid

Date Received: 08/09/21 17:01

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 14:08	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 14:08	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 14:08	1
Total TPH	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	08/11/21 15:10	08/12/21 14:08	1
o-Terphenyl	102		70 - 130	08/11/21 15:10	08/12/21 14:08	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	283		5.00	mg/Kg			08/12/21 18:06	1

Client Sample ID: BH07

Lab Sample ID: 890-1078-6

Date Collected: 08/09/21 14:00

Matrix: Solid

Date Received: 08/09/21 17:01

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 15:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 15:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 15:00	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		08/11/21 09:21	08/12/21 15:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 15:00	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		08/11/21 09:21	08/12/21 15:00	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		08/11/21 09:21	08/12/21 15:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	188	S1+	70 - 130	08/11/21 09:21	08/12/21 15:00	1
1,4-Difluorobenzene (Surr)	147	S1+	70 - 130	08/11/21 09:21	08/12/21 15:00	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		08/11/21 15:10	08/12/21 14:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 14:29	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 14:29	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	08/11/21 15:10	08/12/21 14:29	1
o-Terphenyl	109		70 - 130	08/11/21 15:10	08/12/21 14:29	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	489		5.04	mg/Kg			08/12/21 18:23	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Client Sample ID: BH08

Lab Sample ID: 890-1078-7

Date Collected: 08/09/21 13:28

Matrix: Solid

Date Received: 08/09/21 17:01

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		08/11/21 09:21	08/12/21 15:26	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:21	08/12/21 15:26	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:21	08/12/21 15:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/11/21 09:21	08/12/21 15:26	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:21	08/12/21 15:26	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/11/21 09:21	08/12/21 15:26	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/11/21 09:21	08/12/21 15:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	190	S1+	70 - 130	08/11/21 09:21	08/12/21 15:26	1
1,4-Difluorobenzene (Surr)	140	S1+	70 - 130	08/11/21 09:21	08/12/21 15:26	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		08/11/21 15:10	08/12/21 14:50	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 14:50	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 14:50	1
Total TPH	<49.8	U	49.8	mg/Kg		08/11/21 15:10	08/12/21 14:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	08/11/21 15:10	08/12/21 14:50	1
o-Terphenyl	116		70 - 130	08/11/21 15:10	08/12/21 14:50	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.3		4.95	mg/Kg			08/12/21 18:29	1

Client Sample ID: BH09

Lab Sample ID: 890-1078-8

Date Collected: 08/09/21 14:15

Matrix: Solid

Date Received: 08/09/21 17:01

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		08/11/21 09:21	08/12/21 15:52	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:21	08/12/21 15:52	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:21	08/12/21 15:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/11/21 09:21	08/12/21 15:52	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/11/21 09:21	08/12/21 15:52	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/11/21 09:21	08/12/21 15:52	1
Total BTEX	<0.00398	U	0.00398	mg/Kg		08/11/21 09:21	08/12/21 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	162	S1+	70 - 130	08/11/21 09:21	08/12/21 15:52	1
1,4-Difluorobenzene (Surr)	138	S1+	70 - 130	08/11/21 09:21	08/12/21 15:52	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Client Sample ID: BH09

Lab Sample ID: 890-1078-8

Date Collected: 08/09/21 14:15

Matrix: Solid

Date Received: 08/09/21 17:01

Sample Depth: - 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 15:11	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 15:11	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 15:11	1
Total TPH	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 15:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	08/11/21 15:10	08/12/21 15:11	1
o-Terphenyl	106		70 - 130	08/11/21 15:10	08/12/21 15:11	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	373		4.98	mg/Kg			08/12/21 18:34	1

Client Sample ID: BH10

Lab Sample ID: 890-1078-9

Date Collected: 08/09/21 14:27

Matrix: Solid

Date Received: 08/09/21 17:01

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 16:18	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 16:18	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 16:18	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		08/11/21 09:21	08/12/21 16:18	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 16:18	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		08/11/21 09:21	08/12/21 16:18	1
Total BTEX	<0.00399	U	0.00399	mg/Kg		08/11/21 09:21	08/12/21 16:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	203	S1+	70 - 130	08/11/21 09:21	08/12/21 16:18	1
1,4-Difluorobenzene (Surr)	147	S1+	70 - 130	08/11/21 09:21	08/12/21 16:18	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		08/11/21 15:10	08/12/21 15:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		08/11/21 15:10	08/12/21 15:52	1
Oil Range Organics (Over C28-C36)	60.0		49.9	mg/Kg		08/11/21 15:10	08/12/21 15:52	1
Total TPH	60.0		49.9	mg/Kg		08/11/21 15:10	08/12/21 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	08/11/21 15:10	08/12/21 15:52	1
o-Terphenyl	114		70 - 130	08/11/21 15:10	08/12/21 15:52	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	386		4.99	mg/Kg			08/12/21 18:40	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy 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	DFBZ1				
		(70-130)	(70-130)				
890-1078-1	BH01	205 S1+	95				
890-1078-2	BH02	192 S1+	129				
890-1078-3	BH04	191 S1+	139 S1+				
890-1078-4	BH05	194 S1+	134 S1+				
890-1078-5	BH06	198 S1+	137 S1+				
890-1078-6	BH07	188 S1+	147 S1+				
890-1078-7	BH08	190 S1+	140 S1+				
890-1078-8	BH09	162 S1+	138 S1+				
890-1078-9	BH10	203 S1+	147 S1+				
890-1080-A-1-B MS	Matrix Spike	177 S1+	148 S1+				
890-1080-A-1-C MSD	Matrix Spike Duplicate	165 S1+	147 S1+				
LCS 880-6358/1-A	Lab Control Sample	161 S1+	128				
LCSD 880-6358/2-A	Lab Control Sample Dup	163 S1+	140 S1+				
MB 880-6336/5-A	Method Blank	99	104				
MB 880-6358/5-A	Method Blank	108	115				
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	OTPH1				
		(70-130)	(70-130)				
890-1078-1	BH01	104	111				
890-1078-1 MS	BH01	95	92				
890-1078-1 MSD	BH01	94	93				
890-1078-2	BH02	103	111				
890-1078-3	BH04	103	112				
890-1078-4	BH05	102	105				
890-1078-5	BH06	97	102				
890-1078-6	BH07	105	109				
890-1078-7	BH08	111	116				
890-1078-8	BH09	102	106				
890-1078-9	BH10	109	114				
LCS 880-6410/2-A	Lab Control Sample	90	90				
LCSD 880-6410/3-A	Lab Control Sample Dup	91	91				
MB 880-6410/1-A	Method Blank	95	103				
Surrogate Legend							
1CO = 1-Chlorooctane							
OTPH = o-Terphenyl							

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6336/5-A

Matrix: Solid

Analysis Batch: 6356

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6336

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 17:46	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 17:46	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 17:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/11/21 10:00	08/11/21 17:46	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 10:00	08/11/21 17:46	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/11/21 10:00	08/11/21 17:46	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/11/21 10:00	08/11/21 17:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	08/11/21 10:00	08/11/21 17:46	1
1,4-Difluorobenzene (Surr)	104		70 - 130	08/11/21 10:00	08/11/21 17:46	1

Lab Sample ID: MB 880-6358/5-A

Matrix: Solid

Analysis Batch: 6356

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6358

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 06:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 06:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 06:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/11/21 09:21	08/12/21 06:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/11/21 09:21	08/12/21 06:54	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/11/21 09:21	08/12/21 06:54	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/11/21 09:21	08/12/21 06:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	08/11/21 09:21	08/12/21 06:54	1
1,4-Difluorobenzene (Surr)	115		70 - 130	08/11/21 09:21	08/12/21 06:54	1

Lab Sample ID: LCS 880-6358/1-A

Matrix: Solid

Analysis Batch: 6356

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6358

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1262		mg/Kg		126	70 - 130
Toluene	0.100	0.1107		mg/Kg		111	70 - 130
Ethylbenzene	0.100	0.1161		mg/Kg		116	70 - 130
m-Xylene & p-Xylene	0.200	0.2328		mg/Kg		116	70 - 130
o-Xylene	0.100	0.1187		mg/Kg		119	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	161	S1+	70 - 130
1,4-Difluorobenzene (Surr)	128		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

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

Lab Sample ID: LCSD 880-6358/2-A

Matrix: Solid

Analysis Batch: 6356

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6358

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.1294		mg/Kg		129	70 - 130	3	35
Toluene	0.100	0.1153		mg/Kg		115	70 - 130	4	35
Ethylbenzene	0.100	0.1242		mg/Kg		124	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2496		mg/Kg		125	70 - 130	7	35
o-Xylene	0.100	0.1245		mg/Kg		125	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	163	S1+	70 - 130
1,4-Difluorobenzene (Surr)	140	S1+	70 - 130

Lab Sample ID: 890-1080-A-1-B MS

Matrix: Solid

Analysis Batch: 6356

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 6358

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00199	U F2 F1	0.0998	0.09691		mg/Kg		97	70 - 130		
Toluene	<0.00199	U F2 F1	0.0998	0.08145		mg/Kg		82	70 - 130		
Ethylbenzene	<0.00199	U F2 F1	0.0998	0.07442		mg/Kg		75	70 - 130		
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.200	0.1097	F1	mg/Kg		55	70 - 130		
o-Xylene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	177	S1+	70 - 130
1,4-Difluorobenzene (Surr)	148	S1+	70 - 130

Lab Sample ID: 890-1080-A-1-C MSD

Matrix: Solid

Analysis Batch: 6356

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 6358

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00199	U F2 F1	0.100	0.04896	F2 F1	mg/Kg		49	70 - 130	66	35
Toluene	<0.00199	U F2 F1	0.100	0.04405	F2 F1	mg/Kg		44	70 - 130	60	35
Ethylbenzene	<0.00199	U F2 F1	0.100	0.03888	F2 F1	mg/Kg		39	70 - 130	63	35
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.200	0.05747	F2 F1	mg/Kg		29	70 - 130	62	35
o-Xylene	<0.00199	U F1	0.100	0.05497	F1	mg/Kg		55	70 - 130	NC	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	165	S1+	70 - 130
1,4-Difluorobenzene (Surr)	147	S1+	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

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

Lab Sample ID: MB 880-6410/1-A

Matrix: Solid

Analysis Batch: 6423

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 6410

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		08/11/21 15:10	08/12/21 11:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/11/21 15:10	08/12/21 11:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/11/21 15:10	08/12/21 11:04	1
Total TPH	<50.0	U	50.0	mg/Kg		08/11/21 15:10	08/12/21 11:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	08/11/21 15:10	08/12/21 11:04	1
o-Terphenyl	103		70 - 130	08/11/21 15:10	08/12/21 11:04	1

Lab Sample ID: LCS 880-6410/2-A

Matrix: Solid

Analysis Batch: 6423

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 6410

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	778.9		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	1000	861.9		mg/Kg		86	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: LCSD 880-6410/3-A

Matrix: Solid

Analysis Batch: 6423

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 6410

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	889.5		mg/Kg		89	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	1000	875.4		mg/Kg		88	70 - 130	2	20

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

Lab Sample ID: 890-1078-1 MS

Matrix: Solid

Analysis Batch: 6423

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 6410

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	995	973.7		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	995	803.6		mg/Kg		81	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

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

Lab Sample ID: 890-1078-1 MS

Matrix: Solid

Analysis Batch: 6423

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 6410

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: 890-1078-1 MSD

Matrix: Solid

Analysis Batch: 6423

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 6410

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	916.8		mg/Kg		90	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	826.8		mg/Kg		83	70 - 130	3	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	93		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6322/1-A

Matrix: Solid

Analysis Batch: 6408

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			08/12/21 17:50	1

Lab Sample ID: LCS 880-6322/2-A

Matrix: Solid

Analysis Batch: 6408

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	256.7		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-6322/3-A

Matrix: Solid

Analysis Batch: 6408

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	257.1		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-1078-5 MS

Matrix: Solid

Analysis Batch: 6408

Client Sample ID: BH06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	283		250	512.5		mg/Kg		92	90 - 110

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1078-5 MSD

Matrix: Solid

Analysis Batch: 6408

Client Sample ID: BH06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	283		250	513.0		mg/Kg		92	90 - 110	0	20

Lab Sample ID: MB 880-6321/1-A

Matrix: Solid

Analysis Batch: 6411

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			08/12/21 04:05	1

Lab Sample ID: LCS 880-6321/2-A

Matrix: Solid

Analysis Batch: 6411

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	266.5		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-6321/3-A

Matrix: Solid

Analysis Batch: 6411

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	267.1		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-1072-A-10-C MS

Matrix: Solid

Analysis Batch: 6411

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	112		252	366.1		mg/Kg		101	90 - 110

Lab Sample ID: 890-1072-A-10-D MSD

Matrix: Solid

Analysis Batch: 6411

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	112		252	366.6		mg/Kg		101	90 - 110	0	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

GC VOA

Prep Batch: 6336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6336/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 6356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1078-1	BH01	Total/NA	Solid	8021B	6358
890-1078-2	BH02	Total/NA	Solid	8021B	6358
890-1078-3	BH04	Total/NA	Solid	8021B	6358
890-1078-4	BH05	Total/NA	Solid	8021B	6358
890-1078-5	BH06	Total/NA	Solid	8021B	6358
890-1078-6	BH07	Total/NA	Solid	8021B	6358
890-1078-7	BH08	Total/NA	Solid	8021B	6358
890-1078-8	BH09	Total/NA	Solid	8021B	6358
890-1078-9	BH10	Total/NA	Solid	8021B	6358
MB 880-6336/5-A	Method Blank	Total/NA	Solid	8021B	6336
MB 880-6358/5-A	Method Blank	Total/NA	Solid	8021B	6358
LCS 880-6358/1-A	Lab Control Sample	Total/NA	Solid	8021B	6358
LCSD 880-6358/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6358
890-1080-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	6358
890-1080-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6358

Prep Batch: 6358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1078-1	BH01	Total/NA	Solid	5035	
890-1078-2	BH02	Total/NA	Solid	5035	
890-1078-3	BH04	Total/NA	Solid	5035	
890-1078-4	BH05	Total/NA	Solid	5035	
890-1078-5	BH06	Total/NA	Solid	5035	
890-1078-6	BH07	Total/NA	Solid	5035	
890-1078-7	BH08	Total/NA	Solid	5035	
890-1078-8	BH09	Total/NA	Solid	5035	
890-1078-9	BH10	Total/NA	Solid	5035	
MB 880-6358/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6358/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6358/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1080-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-1080-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 6410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1078-1	BH01	Total/NA	Solid	8015NM Prep	
890-1078-2	BH02	Total/NA	Solid	8015NM Prep	
890-1078-3	BH04	Total/NA	Solid	8015NM Prep	
890-1078-4	BH05	Total/NA	Solid	8015NM Prep	
890-1078-5	BH06	Total/NA	Solid	8015NM Prep	
890-1078-6	BH07	Total/NA	Solid	8015NM Prep	
890-1078-7	BH08	Total/NA	Solid	8015NM Prep	
890-1078-8	BH09	Total/NA	Solid	8015NM Prep	
890-1078-9	BH10	Total/NA	Solid	8015NM Prep	
MB 880-6410/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

GC Semi VOA (Continued)

Prep Batch: 6410 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-6410/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6410/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1078-1 MS	BH01	Total/NA	Solid	8015NM Prep	
890-1078-1 MSD	BH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 6423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1078-1	BH01	Total/NA	Solid	8015B NM	6410
890-1078-2	BH02	Total/NA	Solid	8015B NM	6410
890-1078-3	BH04	Total/NA	Solid	8015B NM	6410
890-1078-4	BH05	Total/NA	Solid	8015B NM	6410
890-1078-5	BH06	Total/NA	Solid	8015B NM	6410
890-1078-6	BH07	Total/NA	Solid	8015B NM	6410
890-1078-7	BH08	Total/NA	Solid	8015B NM	6410
890-1078-8	BH09	Total/NA	Solid	8015B NM	6410
890-1078-9	BH10	Total/NA	Solid	8015B NM	6410
MB 880-6410/1-A	Method Blank	Total/NA	Solid	8015B NM	6410
LCS 880-6410/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6410
LCSD 880-6410/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6410
890-1078-1 MS	BH01	Total/NA	Solid	8015B NM	6410
890-1078-1 MSD	BH01	Total/NA	Solid	8015B NM	6410

HPLC/IC

Leach Batch: 6321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1078-1	BH01	Soluble	Solid	DI Leach	
890-1078-2	BH02	Soluble	Solid	DI Leach	
890-1078-3	BH04	Soluble	Solid	DI Leach	
890-1078-4	BH05	Soluble	Solid	DI Leach	
MB 880-6321/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6321/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6321/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1072-A-10-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1072-A-10-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 6322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1078-5	BH06	Soluble	Solid	DI Leach	
890-1078-6	BH07	Soluble	Solid	DI Leach	
890-1078-7	BH08	Soluble	Solid	DI Leach	
890-1078-8	BH09	Soluble	Solid	DI Leach	
890-1078-9	BH10	Soluble	Solid	DI Leach	
MB 880-6322/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6322/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6322/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1078-5 MS	BH06	Soluble	Solid	DI Leach	
890-1078-5 MSD	BH06	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

HPLC/IC

Analysis Batch: 6408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1078-5	BH06	Soluble	Solid	300.0	6322
890-1078-6	BH07	Soluble	Solid	300.0	6322
890-1078-7	BH08	Soluble	Solid	300.0	6322
890-1078-8	BH09	Soluble	Solid	300.0	6322
890-1078-9	BH10	Soluble	Solid	300.0	6322
MB 880-6322/1-A	Method Blank	Soluble	Solid	300.0	6322
LCS 880-6322/2-A	Lab Control Sample	Soluble	Solid	300.0	6322
LCSD 880-6322/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6322
890-1078-5 MS	BH06	Soluble	Solid	300.0	6322
890-1078-5 MSD	BH06	Soluble	Solid	300.0	6322

Analysis Batch: 6411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1078-1	BH01	Soluble	Solid	300.0	6321
890-1078-2	BH02	Soluble	Solid	300.0	6321
890-1078-3	BH04	Soluble	Solid	300.0	6321
890-1078-4	BH05	Soluble	Solid	300.0	6321
MB 880-6321/1-A	Method Blank	Soluble	Solid	300.0	6321
LCS 880-6321/2-A	Lab Control Sample	Soluble	Solid	300.0	6321
LCSD 880-6321/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6321
890-1072-A-10-C MS	Matrix Spike	Soluble	Solid	300.0	6321
890-1072-A-10-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6321

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Client Sample ID: BH01

Lab Sample ID: 890-1078-1

Date Collected: 08/09/21 13:15

Matrix: Solid

Date Received: 08/09/21 17:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	6358	08/11/21 09:21	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6356	08/12/21 12:52	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	6410	08/11/21 15:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6423	08/12/21 12:05	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	6321	08/10/21 11:44	CH	XEN MID
Soluble	Analysis	300.0		1			6411	08/12/21 06:36	CH	XEN MID

Client Sample ID: BH02

Lab Sample ID: 890-1078-2

Date Collected: 08/09/21 12:50

Matrix: Solid

Date Received: 08/09/21 17:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	6358	08/11/21 09:21	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6356	08/12/21 13:17	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6410	08/11/21 15:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6423	08/12/21 13:06	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6321	08/10/21 11:44	CH	XEN MID
Soluble	Analysis	300.0		1			6411	08/12/21 06:42	CH	XEN MID

Client Sample ID: BH04

Lab Sample ID: 890-1078-3

Date Collected: 08/09/21 08:25

Matrix: Solid

Date Received: 08/09/21 17:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	6358	08/11/21 09:21	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6356	08/12/21 13:43	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6410	08/11/21 15:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6423	08/12/21 13:26	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6321	08/10/21 11:44	CH	XEN MID
Soluble	Analysis	300.0		1			6411	08/12/21 06:47	CH	XEN MID

Client Sample ID: BH05

Lab Sample ID: 890-1078-4

Date Collected: 08/09/21 10:30

Matrix: Solid

Date Received: 08/09/21 17:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	6358	08/11/21 09:21	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6356	08/12/21 14:09	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	6410	08/11/21 15:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6423	08/12/21 13:47	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	6321	08/10/21 11:44	CH	XEN MID
Soluble	Analysis	300.0		1			6411	08/12/21 06:53	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Client Sample ID: BH06

Lab Sample ID: 890-1078-5

Date Collected: 08/09/21 13:38

Matrix: Solid

Date Received: 08/09/21 17:01

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	6358	08/11/21 09:21	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6356	08/12/21 14:34	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	6410	08/11/21 15:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6423	08/12/21 14:08	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	6322	08/10/21 11:49	CH	XEN MID
Soluble	Analysis	300.0		1			6408	08/12/21 18:06	CH	XEN MID

Client Sample ID: BH07

Lab Sample ID: 890-1078-6

Date Collected: 08/09/21 14:00

Matrix: Solid

Date Received: 08/09/21 17:01

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	6358	08/11/21 09:21	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6356	08/12/21 15:00	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6410	08/11/21 15:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6423	08/12/21 14:29	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	6322	08/10/21 11:49	CH	XEN MID
Soluble	Analysis	300.0		1			6408	08/12/21 18:23	CH	XEN MID

Client Sample ID: BH08

Lab Sample ID: 890-1078-7

Date Collected: 08/09/21 13:28

Matrix: Solid

Date Received: 08/09/21 17:01

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	6358	08/11/21 09:21	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6356	08/12/21 15:26	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	6410	08/11/21 15:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6423	08/12/21 14:50	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	6322	08/10/21 11:49	CH	XEN MID
Soluble	Analysis	300.0		1			6408	08/12/21 18:29	CH	XEN MID

Client Sample ID: BH09

Lab Sample ID: 890-1078-8

Date Collected: 08/09/21 14:15

Matrix: Solid

Date Received: 08/09/21 17:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	6358	08/11/21 09:21	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6356	08/12/21 15:52	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	6410	08/11/21 15:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6423	08/12/21 15:11	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	6322	08/10/21 11:49	CH	XEN MID
Soluble	Analysis	300.0		1			6408	08/12/21 18:34	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Client Sample ID: BH10

Lab Sample ID: 890-1078-9

Date Collected: 08/09/21 14:27

Matrix: Solid

Date Received: 08/09/21 17:01

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	6358	08/11/21 09:21	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	6356	08/12/21 16:18	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	6410	08/11/21 15:10	DM	XEN MID
Total/NA	Analysis	8015B NM		1			6423	08/12/21 15:52	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	6322	08/10/21 11:49	CH	XEN MID
Soluble	Analysis	300.0		1			6408	08/12/21 18:40	CH	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: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy 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	06-30-22

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1078-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1078-1	BH01	Solid	08/09/21 13:15	08/09/21 17:01	- 1
890-1078-2	BH02	Solid	08/09/21 12:50	08/09/21 17:01	- 1
890-1078-3	BH04	Solid	08/09/21 08:25	08/09/21 17:01	- 1
890-1078-4	BH05	Solid	08/09/21 10:30	08/09/21 17:01	- 1
890-1078-5	BH06	Solid	08/09/21 13:38	08/09/21 17:01	- 1
890-1078-6	BH07	Solid	08/09/21 14:00	08/09/21 17:01	- 1
890-1078-7	BH08	Solid	08/09/21 13:28	08/09/21 17:01	- 1
890-1078-8	BH09	Solid	08/09/21 14:15	08/09/21 17:01	- 1
890-1078-9	BH10	Solid	08/09/21 14:27	08/09/21 17:01	- 1



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:	WSP USA	Company Name:	→
Address:	3308 N A ST	Address:	→
City, State ZIP:	MIDLAND, TX 79705	City, State ZIP:	→
Phone:	(281) 702-2329	Email:	anna.byres@wsp.com

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

Project Name:	Maceno Grande 2H	Turn Around	Pres. Code
Project Number:	31403152.004	☒ Routine ☐ Rush	
Project Location:	EDDY COUNTRY	Due Date:	
Sampler's Name:	Anna Byres	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	NAPP2118933045		
SAMPLE RECEIPT	Temp Blank: ☒ Yes ☒ No	Wet Ice: ☒ Yes ☒ No	
Samples Received Intact	☒ Yes ☒ No	Thermometer ID: TMM-001	
Cooler Custody Seals:	☒ Yes ☒ No	Correction Factor: -0.2	
Sample Custody Seals:	☒ Yes ☒ No	Temperature Reading: 0.6	
Total Containers:	Yes ☒ No ☒ N/A	Temperature Reading: 0.4	



890-1078 Chain of Custody

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: SANC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	BTE	Chloride	TPH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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Revised Date: 09/25/2020 Rev: 2020.2

Eurofins Xenco, Carlsbad

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

Chain of Custody Record



Environment Testing
America

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No:																																																																																																																								
Client Contact	Phone	Kramer, Jessica			890-343-1																																																																																																																								
Shipping/Receiving	E-Mail	Jessica.kramer@eurofins.com	State of Origin		Page 1 of 1																																																																																																																								
Company	Accreditations Required (See note)	NEIAP - Louisiana NEIAP - Texas	New Mexico		Job #																																																																																																																								
Eurofins Xenco					890-1078-1																																																																																																																								
Address	Due Date Requested	8/13/2021	Analysis Requested		Preservation Codes																																																																																																																								
1211 W Florida Ave.					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																																																																																																																								
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Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon out sub-contract 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/shipment, 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 Relinquished by: Date/Time Company Relinquished by: Date/Time Company Relinquished by: Date/Time Company Custody Seals Intact: Custody Seal No Δ Yes Δ No Cooler Temperature(s) °C and Other Remarks																																																																																																																													
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months																																																																																																																													

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1078-1

SDG Number: Eddy County NM

Login Number: 1078

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: 890-1078-1

SDG Number: Eddy County NM

Login Number: 1078

List Source: Eurofins Xenco, Midland

List Number: 2

List Creation: 08/11/21 11:17 AM

Creator: Kramer, Jessica

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: 890-1299-1

Laboratory Sample Delivery Group: Eddy County NM
Client Project/Site: Macho Grande 2H

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:
9/28/2021 4:07:47 PM

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

LINKS

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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: Macho Grande 2H

Laboratory Job ID: 890-1299-1
SDG: Eddy County NM

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	16
QC Sample Results	18
QC Association Summary	24
Lab Chronicle	28
Certification Summary	32
Method Summary	33
Sample Summary	34
Chain of Custody	35
Receipt Checklists	39

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD 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.
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: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Job ID: 890-1299-1**Laboratory: Eurofins Xenco, Carlsbad****Narrative****Job Narrative
890-1299-1****Receipt**

The samples were received on 9/22/2021 4:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-8397 and analytical batch 880-8448 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS01

Lab Sample ID: 890-1299-1

Date Collected: 09/22/21 08:55

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 16:29	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 16:29	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 16:29	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/24/21 16:50	09/27/21 16:29	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 16:29	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/24/21 16:50	09/27/21 16:29	1
Total BTEX	<0.00201	U **	0.00201	mg/Kg		09/24/21 16:50	09/27/21 16:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	09/24/21 16:50	09/27/21 16:29	1
1,4-Difluorobenzene (Surr)	80		70 - 130	09/24/21 16:50	09/27/21 16:29	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		09/24/21 16:32	09/25/21 22:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		09/24/21 16:32	09/25/21 22:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/24/21 16:32	09/25/21 22:56	1
Total TPH	<49.8	U	49.8	mg/Kg		09/24/21 16:32	09/25/21 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	09/24/21 16:32	09/25/21 22:56	1
o-Terphenyl	122		70 - 130	09/24/21 16:32	09/25/21 22:56	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	419		5.00	mg/Kg			09/27/21 20:14	1

Client Sample ID: FS02

Lab Sample ID: 890-1299-2

Date Collected: 09/22/21 09:00

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 16:50	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 16:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 16:50	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		09/24/21 16:50	09/27/21 16:50	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 16:50	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		09/24/21 16:50	09/27/21 16:50	1
Total BTEX	<0.00200	U **	0.00200	mg/Kg		09/24/21 16:50	09/27/21 16:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	09/24/21 16:50	09/27/21 16:50	1
1,4-Difluorobenzene (Surr)	75		70 - 130	09/24/21 16:50	09/27/21 16:50	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS02

Lab Sample ID: 890-1299-2

Date Collected: 09/22/21 09:00

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/25/21 23:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/25/21 23:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/25/21 23:59	1
Total TPH	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/25/21 23:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130	09/24/21 16:32	09/25/21 23:59	1
o-Terphenyl	128		70 - 130	09/24/21 16:32	09/25/21 23:59	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	384		4.98	mg/Kg			09/27/21 20:20	1

Client Sample ID: FS03

Lab Sample ID: 890-1299-3

Date Collected: 09/22/21 09:05

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 17:10	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 17:10	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 17:10	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		09/24/21 16:50	09/27/21 17:10	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 17:10	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/24/21 16:50	09/27/21 17:10	1
Total BTEX	<0.00200	U **	0.00200	mg/Kg		09/24/21 16:50	09/27/21 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	09/24/21 16:50	09/27/21 17:10	1
1,4-Difluorobenzene (Surr)	78		70 - 130	09/24/21 16:50	09/27/21 17:10	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		09/24/21 16:32	09/26/21 00:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 00:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 00:20	1
Total TPH	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 00:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130	09/24/21 16:32	09/26/21 00:20	1
o-Terphenyl	122		70 - 130	09/24/21 16:32	09/26/21 00:20	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	409		4.97	mg/Kg			09/26/21 03:05	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS04

Lab Sample ID: 890-1299-4

Date Collected: 09/22/21 09:10

Matrix: Solid

Date Received: 09/22/21 16:30

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		09/24/21 16:50	09/27/21 17:31	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/24/21 16:50	09/27/21 17:31	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/24/21 16:50	09/27/21 17:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/24/21 16:50	09/27/21 17:31	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/24/21 16:50	09/27/21 17:31	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/24/21 16:50	09/27/21 17:31	1
Total BTEX	<0.00199	U **	0.00199	mg/Kg		09/24/21 16:50	09/27/21 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	09/24/21 16:50	09/27/21 17:31	1
1,4-Difluorobenzene (Surr)	69	S1-	70 - 130	09/24/21 16:50	09/27/21 17:31	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		09/24/21 16:32	09/26/21 00:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 00:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 00:41	1
Total TPH	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 00:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130	09/24/21 16:32	09/26/21 00:41	1
o-Terphenyl	125		70 - 130	09/24/21 16:32	09/26/21 00:41	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	452		4.95	mg/Kg			09/26/21 03:10	1

Client Sample ID: FS05

Lab Sample ID: 890-1299-5

Date Collected: 09/22/21 09:15

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 17:51	1
Toluene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 17:51	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 17:51	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		09/24/21 16:50	09/27/21 17:51	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 17:51	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		09/24/21 16:50	09/27/21 17:51	1
Total BTEX	<0.00202	U **	0.00202	mg/Kg		09/24/21 16:50	09/27/21 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	09/24/21 16:50	09/27/21 17:51	1
1,4-Difluorobenzene (Surr)	76		70 - 130	09/24/21 16:50	09/27/21 17:51	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS05

Lab Sample ID: 890-1299-5

Date Collected: 09/22/21 09:15

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		09/24/21 16:32	09/26/21 01:02	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		09/24/21 16:32	09/26/21 01:02	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/24/21 16:32	09/26/21 01:02	1
Total TPH	<49.8	U	49.8	mg/Kg		09/24/21 16:32	09/26/21 01:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130	09/24/21 16:32	09/26/21 01:02	1
o-Terphenyl	125		70 - 130	09/24/21 16:32	09/26/21 01:02	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	351		4.95	mg/Kg			09/26/21 03:16	1

Client Sample ID: FS06

Lab Sample ID: 890-1299-6

Date Collected: 09/22/21 09:20

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 18:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 18:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 18:12	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		09/24/21 16:50	09/27/21 18:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 18:12	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		09/24/21 16:50	09/27/21 18:12	1
Total BTEX	<0.00200	U **	0.00200	mg/Kg		09/24/21 16:50	09/27/21 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130	09/24/21 16:50	09/27/21 18:12	1
1,4-Difluorobenzene (Surr)	75		70 - 130	09/24/21 16:50	09/27/21 18:12	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/26/21 01:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/26/21 01:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/26/21 01:24	1
Total TPH	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/26/21 01:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130	09/24/21 16:32	09/26/21 01:24	1
o-Terphenyl	127		70 - 130	09/24/21 16:32	09/26/21 01:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	70.1		5.03	mg/Kg			09/26/21 03:21	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS07

Lab Sample ID: 890-1299-7

Date Collected: 09/22/21 09:25

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 20:16	1
Toluene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 20:16	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 20:16	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		09/24/21 16:50	09/27/21 20:16	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 20:16	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		09/24/21 16:50	09/27/21 20:16	1
Total BTEX	<0.00202	U **	0.00202	mg/Kg		09/24/21 16:50	09/27/21 20:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	09/24/21 16:50	09/27/21 20:16	1
1,4-Difluorobenzene (Surr)	81		70 - 130	09/24/21 16:50	09/27/21 20:16	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		09/24/21 16:32	09/26/21 01:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 01:45	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 01:45	1
Total TPH	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 01:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130	09/24/21 16:32	09/26/21 01:45	1
o-Terphenyl	126		70 - 130	09/24/21 16:32	09/26/21 01:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	366		4.98	mg/Kg			09/26/21 03:27	1

Client Sample ID: FS08

Lab Sample ID: 890-1299-8

Date Collected: 09/22/21 09:30

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 20:36	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 20:36	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 20:36	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/24/21 16:50	09/27/21 20:36	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 20:36	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/24/21 16:50	09/27/21 20:36	1
Total BTEX	<0.00201	U **	0.00201	mg/Kg		09/24/21 16:50	09/27/21 20:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	09/24/21 16:50	09/27/21 20:36	1
1,4-Difluorobenzene (Surr)	83		70 - 130	09/24/21 16:50	09/27/21 20:36	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS08

Lab Sample ID: 890-1299-8

Date Collected: 09/22/21 09:30

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 02:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 02:06	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 02:06	1
Total TPH	<49.9	U	49.9	mg/Kg		09/24/21 16:32	09/26/21 02:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	09/24/21 16:32	09/26/21 02:06	1
o-Terphenyl	123		70 - 130	09/24/21 16:32	09/26/21 02:06	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	173		5.00	mg/Kg			09/26/21 03:33	1

Client Sample ID: FS09

Lab Sample ID: 890-1299-9

Date Collected: 09/22/21 13:15

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 20:57	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 20:57	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 20:57	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		09/24/21 16:50	09/27/21 20:57	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 20:57	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		09/24/21 16:50	09/27/21 20:57	1
Total BTEX	<0.00200	U **	0.00200	mg/Kg		09/24/21 16:50	09/27/21 20:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	09/24/21 16:50	09/27/21 20:57	1
1,4-Difluorobenzene (Surr)	83		70 - 130	09/24/21 16:50	09/27/21 20:57	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 *1	49.9	mg/Kg		09/24/21 14:53	09/25/21 01:50	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		09/24/21 14:53	09/25/21 01:50	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		09/24/21 14:53	09/25/21 01:50	1
Total TPH	<49.9	U	49.9	mg/Kg		09/24/21 14:53	09/25/21 01:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	09/24/21 14:53	09/25/21 01:50	1
o-Terphenyl	99		70 - 130	09/24/21 14:53	09/25/21 01:50	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	277		4.95	mg/Kg			09/26/21 03:49	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS10

Lab Sample ID: 890-1299-10

Date Collected: 09/22/21 13:40

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/24/21 16:50	09/27/21 21:18	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/24/21 16:50	09/27/21 21:18	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/24/21 16:50	09/27/21 21:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/24/21 16:50	09/27/21 21:18	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/24/21 16:50	09/27/21 21:18	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/24/21 16:50	09/27/21 21:18	1
Total BTEX	<0.00199	U **	0.00199	mg/Kg		09/24/21 16:50	09/27/21 21:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	09/24/21 16:50	09/27/21 21:18	1
1,4-Difluorobenzene (Surr)	77		70 - 130	09/24/21 16:50	09/27/21 21:18	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 *1	49.8	mg/Kg		09/24/21 14:53	09/25/21 02:13	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		09/24/21 14:53	09/25/21 02:13	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/24/21 14:53	09/25/21 02:13	1
Total TPH	<49.8	U	49.8	mg/Kg		09/24/21 14:53	09/25/21 02:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	09/24/21 14:53	09/25/21 02:13	1
o-Terphenyl	96		70 - 130	09/24/21 14:53	09/25/21 02:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	490		5.04	mg/Kg			09/26/21 03:55	1

Client Sample ID: FS11

Lab Sample ID: 890-1299-11

Date Collected: 09/22/21 13:55

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 21:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 21:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 21:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/24/21 16:50	09/27/21 21:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 21:38	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/24/21 16:50	09/27/21 21:38	1
Total BTEX	<0.00200	U **	0.00200	mg/Kg		09/24/21 16:50	09/27/21 21:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	09/24/21 16:50	09/27/21 21:38	1
1,4-Difluorobenzene (Surr)	81		70 - 130	09/24/21 16:50	09/27/21 21:38	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS11

Lab Sample ID: 890-1299-11

Date Collected: 09/22/21 13:55

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		09/24/21 14:53	09/25/21 02:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 02:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 02:35	1
Total TPH	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 02:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	09/24/21 14:53	09/25/21 02:35	1
o-Terphenyl	91		70 - 130	09/24/21 14:53	09/25/21 02:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	520		4.96	mg/Kg			09/26/21 04:12	1

Client Sample ID: FS12

Lab Sample ID: 890-1299-12

Date Collected: 09/22/21 12:35

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 21:59	1
Toluene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 21:59	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 21:59	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		09/24/21 16:50	09/27/21 21:59	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		09/24/21 16:50	09/27/21 21:59	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		09/24/21 16:50	09/27/21 21:59	1
Total BTEX	<0.00202	U **	0.00202	mg/Kg		09/24/21 16:50	09/27/21 21:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	09/24/21 16:50	09/27/21 21:59	1
1,4-Difluorobenzene (Surr)	82		70 - 130	09/24/21 16:50	09/27/21 21:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		09/24/21 14:53	09/25/21 02:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 02:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 02:57	1
Total TPH	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 02:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	09/24/21 14:53	09/25/21 02:57	1
o-Terphenyl	98		70 - 130	09/24/21 14:53	09/25/21 02:57	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	722		4.99	mg/Kg			09/26/21 04:17	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS13

Lab Sample ID: 890-1299-13

Date Collected: 09/22/21 11:00

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:19	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:19	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:19	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/24/21 16:50	09/27/21 22:19	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:19	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/24/21 16:50	09/27/21 22:19	1
Total BTEX	<0.00201	U **	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	09/24/21 16:50	09/27/21 22:19	1
1,4-Difluorobenzene (Surr)	83		70 - 130	09/24/21 16:50	09/27/21 22:19	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 *1	49.8	mg/Kg		09/24/21 14:53	09/25/21 03:19	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		09/24/21 14:53	09/25/21 03:19	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/24/21 14:53	09/25/21 03:19	1
Total TPH	<49.8	U	49.8	mg/Kg		09/24/21 14:53	09/25/21 03:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	09/24/21 14:53	09/25/21 03:19	1
o-Terphenyl	96		70 - 130	09/24/21 14:53	09/25/21 03:19	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	441		5.00	mg/Kg			09/26/21 04:23	1

Client Sample ID: FS14

Lab Sample ID: 890-1299-14

Date Collected: 09/22/21 11:05

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:40	1
Toluene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:40	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:40	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		09/24/21 16:50	09/27/21 22:40	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:40	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		09/24/21 16:50	09/27/21 22:40	1
Total BTEX	<0.00201	U **	0.00201	mg/Kg		09/24/21 16:50	09/27/21 22:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	09/24/21 16:50	09/27/21 22:40	1
1,4-Difluorobenzene (Surr)	79		70 - 130	09/24/21 16:50	09/27/21 22:40	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS14

Lab Sample ID: 890-1299-14

Date Collected: 09/22/21 11:05

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		09/24/21 14:53	09/25/21 03:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 03:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 03:43	1
Total TPH	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 03:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	09/24/21 14:53	09/25/21 03:43	1
o-Terphenyl	105		70 - 130	09/24/21 14:53	09/25/21 03:43	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	422		5.00	mg/Kg			09/26/21 04:29	1

Client Sample ID: FS15

Lab Sample ID: 890-1299-15

Date Collected: 09/22/21 10:30

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:00	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		09/24/21 16:50	09/27/21 23:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:00	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		09/24/21 16:50	09/27/21 23:00	1
Total BTEX	<0.00200	U **	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130	09/24/21 16:50	09/27/21 23:00	1
1,4-Difluorobenzene (Surr)	74		70 - 130	09/24/21 16:50	09/27/21 23:00	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 *1	49.8	mg/Kg		09/24/21 14:53	09/25/21 04:04	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		09/24/21 14:53	09/25/21 04:04	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		09/24/21 14:53	09/25/21 04:04	1
Total TPH	<49.8	U	49.8	mg/Kg		09/24/21 14:53	09/25/21 04:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	09/24/21 14:53	09/25/21 04:04	1
o-Terphenyl	95		70 - 130	09/24/21 14:53	09/25/21 04:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79.9		4.97	mg/Kg			09/26/21 04:34	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS16

Lab Sample ID: 890-1299-16

Date Collected: 09/22/21 10:35

Matrix: Solid

Date Received: 09/22/21 16:30

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:20	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/24/21 16:50	09/27/21 23:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:20	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/24/21 16:50	09/27/21 23:20	1
Total BTEX	<0.00200	U **	0.00200	mg/Kg		09/24/21 16:50	09/27/21 23:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	09/24/21 16:50	09/27/21 23:20	1
1,4-Difluorobenzene (Surr)	77		70 - 130	09/24/21 16:50	09/27/21 23:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		09/24/21 14:53	09/25/21 04:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 04:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 04:26	1
Total TPH	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/25/21 04:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	09/24/21 14:53	09/25/21 04:26	1
o-Terphenyl	99		70 - 130	09/24/21 14:53	09/25/21 04:26	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	127		4.95	mg/Kg			09/26/21 04:40	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy 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)
880-6464-A-1-B MS	Matrix Spike	115	85
880-6464-A-1-C MSD	Matrix Spike Duplicate	133 S1+	84
890-1299-1	FS01	127	80
890-1299-2	FS02	113	75
890-1299-3	FS03	119	78
890-1299-4	FS04	123	69 S1-
890-1299-5	FS05	128	76
890-1299-6	FS06	125	75
890-1299-7	FS07	113	81
890-1299-8	FS08	100	83
890-1299-9	FS09	104	83
890-1299-10	FS10	119	77
890-1299-11	FS11	104	81
890-1299-12	FS12	103	82
890-1299-13	FS13	113	83
890-1299-14	FS14	110	79
890-1299-15	FS15	129	74
890-1299-16	FS16	128	77
LCS 880-8397/1-A	Lab Control Sample	112	86
LCSD 880-8397/2-A	Lab Control Sample Dup	116	75
MB 880-8397/5-A	Method Blank	102	78
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)
880-6453-A-21-B MS	Matrix Spike	99	97
880-6453-A-21-C MSD	Matrix Spike Duplicate	106	103
890-1299-1	FS01	112	122
890-1299-1 MS	FS01	102	102
890-1299-1 MSD	FS01	102	102
890-1299-2	FS02	116	128
890-1299-3	FS03	112	122
890-1299-4	FS04	116	125
890-1299-5	FS05	113	125
890-1299-6	FS06	116	127
890-1299-7	FS07	115	126
890-1299-8	FS08	111	123
890-1299-9	FS09	89	99
890-1299-10	FS10	87	96
890-1299-11	FS11	83	91
890-1299-12	FS12	87	98
890-1299-13	FS13	90	96
890-1299-14	FS14	100	105

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)**Matrix: Solid****Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-1299-15	FS15	90	95
890-1299-16	FS16	90	99
LCS 880-8374/2-A	Lab Control Sample	89	90
LCS 880-8396/2-A	Lab Control Sample	103	103
LCSD 880-8374/3-A	Lab Control Sample Dup	79	79
LCSD 880-8396/3-A	Lab Control Sample Dup	101	103
MB 880-8374/1-A	Method Blank	94	102
MB 880-8396/1-A	Method Blank	99	110
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-8397/5-A

Matrix: Solid

Analysis Batch: 8448

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8397

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 14:30	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 14:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 14:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		09/24/21 16:50	09/27/21 14:30	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 14:30	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		09/24/21 16:50	09/27/21 14:30	1
Total BTEX	<0.00200	U	0.00200	mg/Kg		09/24/21 16:50	09/27/21 14:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	09/24/21 16:50	09/27/21 14:30	1
1,4-Difluorobenzene (Surr)	78		70 - 130	09/24/21 16:50	09/27/21 14:30	1

Lab Sample ID: LCS 880-8397/1-A

Matrix: Solid

Analysis Batch: 8448

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09124		mg/Kg		91	70 - 130
Toluene	0.100	0.09115		mg/Kg		91	70 - 130
Ethylbenzene	0.100	0.09375		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1963		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09815		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: LCSD 880-8397/2-A

Matrix: Solid

Analysis Batch: 8448

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8397

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.07860		mg/Kg		79	70 - 130	15	35
Toluene	0.100	0.08166		mg/Kg		82	70 - 130	11	35
Ethylbenzene	0.100	0.08568		mg/Kg		86	70 - 130	9	35
m-Xylene & p-Xylene	0.200	0.1805		mg/Kg		90	70 - 130	8	35
o-Xylene	0.100	0.09173		mg/Kg		92	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	75		70 - 130

Lab Sample ID: 880-6464-A-1-B MS

Matrix: Solid

Analysis Batch: 8448

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8397

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U F1	0.0998	0.05659	F1	mg/Kg		57	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

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

Lab Sample ID: 880-6464-A-1-B MS

Matrix: Solid

Analysis Batch: 8448

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8397

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	0.00225	F1	0.0998	0.04544	F1	mg/Kg		43	70 - 130
Ethylbenzene	0.00795	F1	0.0998	0.04067	F1	mg/Kg		33	70 - 130
m-Xylene & p-Xylene	0.00615	F1	0.200	0.07218	F1	mg/Kg		33	70 - 130
o-Xylene	0.00272	F1	0.0998	0.03356	F1	mg/Kg		31	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	115		70 - 130						
1,4-Difluorobenzene (Surr)	85		70 - 130						

Lab Sample ID: 880-6464-A-1-C MSD

Matrix: Solid

Analysis Batch: 8448

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8397

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0994	0.06654	F1	mg/Kg		67	70 - 130	16	35
Toluene	0.00225	F1	0.0994	0.05603	F1	mg/Kg		54	70 - 130	21	35
Ethylbenzene	0.00795	F1	0.0994	0.04524	F1	mg/Kg		38	70 - 130	11	35
m-Xylene & p-Xylene	0.00615	F1	0.199	0.08839	F1	mg/Kg		41	70 - 130	20	35
o-Xylene	0.00272	F1	0.0994	0.04503	F1	mg/Kg		43	70 - 130	29	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130								
1,4-Difluorobenzene (Surr)	84		70 - 130								

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

Lab Sample ID: MB 880-8374/1-A

Matrix: Solid

Analysis Batch: 8340

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8374

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		09/24/21 14:53	09/24/21 19:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/24/21 19:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/24/21 19:18	1
Total TPH	<50.0	U	50.0	mg/Kg		09/24/21 14:53	09/24/21 19:18	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130			09/24/21 14:53	09/24/21 19:18	1
o-Terphenyl	102		70 - 130			09/24/21 14:53	09/24/21 19:18	1

Lab Sample ID: LCS 880-8374/2-A

Matrix: Solid

Analysis Batch: 8340

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8374

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	932.4		mg/Kg		93	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-8374/2-A

Matrix: Solid

Analysis Batch: 8340

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8374

			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Diesel Range Organics (Over C10-C28)			1000	825.3		mg/Kg		83	70 - 130		

Lab Sample ID: LCSD 880-8374/3-A

Matrix: Solid

Analysis Batch: 8340

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8374

			Spike	LCSD	LCSD				%Rec.	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	703.4	*1	mg/Kg		70	70 - 130	28	20
Diesel Range Organics (Over C10-C28)			1000	759.5		mg/Kg		76	70 - 130	8	20
			LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	79		70 - 130								
o-Terphenyl	79		70 - 130								

Lab Sample ID: 880-6453-A-21-B MS

Matrix: Solid

Analysis Batch: 8340

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8374

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	997	995.1		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	997	747.3		mg/Kg		73	70 - 130		

Lab Sample ID: 880-6453-A-21-C MSD

Matrix: Solid

Analysis Batch: 8340

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8374

	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	<49.8	U *1	999	967.1		mg/Kg		94	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	808.6		mg/Kg		79	70 - 130	8	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

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

Lab Sample ID: MB 880-8396/1-A

Matrix: Solid

Analysis Batch: 8405

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8396

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		09/24/21 16:32	09/25/21 21:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/25/21 21:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/25/21 21:52	1
Total TPH	<50.0	U	50.0	mg/Kg		09/24/21 16:32	09/25/21 21:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	09/24/21 16:32	09/25/21 21:52	1
o-Terphenyl	110		70 - 130	09/24/21 16:32	09/25/21 21:52	1

Lab Sample ID: LCS 880-8396/2-A

Matrix: Solid

Analysis Batch: 8405

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8396

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	878.4		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	928.5		mg/Kg		93	70 - 130

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

Lab Sample ID: LCSD 880-8396/3-A

Matrix: Solid

Analysis Batch: 8405

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8396

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	860.1		mg/Kg		86	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	1019		mg/Kg		102	70 - 130	9	20

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

Lab Sample ID: 890-1299-1 MS

Matrix: Solid

Analysis Batch: 8405

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 8396

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	997	942.3		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	997	872.1		mg/Kg		86	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

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

Lab Sample ID: 890-1299-1 MS

Matrix: Solid

Analysis Batch: 8405

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 8396

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 890-1299-1 MSD

Matrix: Solid

Analysis Batch: 8405

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 8396

	Sample	Sample	Spike	MSD	MSD				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	886.3		mg/Kg		89	70 - 130	6
Diesel Range Organics (Over C10-C28)	<49.8	U	999	877.5		mg/Kg		86	70 - 130	1
	MSD	MSD								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	102		70 - 130							
o-Terphenyl	102		70 - 130							

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-8380/1-A

Matrix: Solid

Analysis Batch: 8418

Client Sample ID: Method Blank

Prep Type: Soluble

	MB	MB								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	<5.00	U	5.00	mg/Kg			09/26/21 01:57	1		

Lab Sample ID: LCS 880-8380/2-A

Matrix: Solid

Analysis Batch: 8418

Client Sample ID: Lab Control Sample

Prep Type: Soluble

	Spike	LCS	LCS					%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	250	258.3		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-8380/3-A

Matrix: Solid

Analysis Batch: 8418

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

	Spike	LCSD	LCSD					%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	258.9		mg/Kg		104	90 - 110	0	20	

Lab Sample ID: 890-1299-8 MS

Matrix: Solid

Analysis Batch: 8418

Client Sample ID: FS08

Prep Type: Soluble

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	173		250	429.0		mg/Kg		103	90 - 110	

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1299-8 MSD

Matrix: Solid

Analysis Batch: 8418

Client Sample ID: FS08

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	173		250	429.0		mg/Kg		103	90 - 110	0	20

Lab Sample ID: MB 880-8386/1-A

Matrix: Solid

Analysis Batch: 8473

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			09/27/21 18:53	1

Lab Sample ID: LCS 880-8386/2-A

Matrix: Solid

Analysis Batch: 8473

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	269.2		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-8386/3-A

Matrix: Solid

Analysis Batch: 8473

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	268.7		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 880-6454-A-35-E MS

Matrix: Solid

Analysis Batch: 8473

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<4.98	U	249	273.1		mg/Kg		108	90 - 110

Lab Sample ID: 880-6454-A-35-F MSD

Matrix: Solid

Analysis Batch: 8473

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<4.98	U	249	273.2		mg/Kg		108	90 - 110	0	20

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

GC VOA

Prep Batch: 8397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-1	FS01	Total/NA	Solid	5035	
890-1299-2	FS02	Total/NA	Solid	5035	
890-1299-3	FS03	Total/NA	Solid	5035	
890-1299-4	FS04	Total/NA	Solid	5035	
890-1299-5	FS05	Total/NA	Solid	5035	
890-1299-6	FS06	Total/NA	Solid	5035	
890-1299-7	FS07	Total/NA	Solid	5035	
890-1299-8	FS08	Total/NA	Solid	5035	
890-1299-9	FS09	Total/NA	Solid	5035	
890-1299-10	FS10	Total/NA	Solid	5035	
890-1299-11	FS11	Total/NA	Solid	5035	
890-1299-12	FS12	Total/NA	Solid	5035	
890-1299-13	FS13	Total/NA	Solid	5035	
890-1299-14	FS14	Total/NA	Solid	5035	
890-1299-15	FS15	Total/NA	Solid	5035	
890-1299-16	FS16	Total/NA	Solid	5035	
MB 880-8397/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-8397/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8397/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-6464-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-6464-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 8448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-1	FS01	Total/NA	Solid	8021B	8397
890-1299-2	FS02	Total/NA	Solid	8021B	8397
890-1299-3	FS03	Total/NA	Solid	8021B	8397
890-1299-4	FS04	Total/NA	Solid	8021B	8397
890-1299-5	FS05	Total/NA	Solid	8021B	8397
890-1299-6	FS06	Total/NA	Solid	8021B	8397
890-1299-7	FS07	Total/NA	Solid	8021B	8397
890-1299-8	FS08	Total/NA	Solid	8021B	8397
890-1299-9	FS09	Total/NA	Solid	8021B	8397
890-1299-10	FS10	Total/NA	Solid	8021B	8397
890-1299-11	FS11	Total/NA	Solid	8021B	8397
890-1299-12	FS12	Total/NA	Solid	8021B	8397
890-1299-13	FS13	Total/NA	Solid	8021B	8397
890-1299-14	FS14	Total/NA	Solid	8021B	8397
890-1299-15	FS15	Total/NA	Solid	8021B	8397
890-1299-16	FS16	Total/NA	Solid	8021B	8397
MB 880-8397/5-A	Method Blank	Total/NA	Solid	8021B	8397
LCS 880-8397/1-A	Lab Control Sample	Total/NA	Solid	8021B	8397
LCSD 880-8397/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	8397
880-6464-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	8397
880-6464-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	8397

GC Semi VOA

Analysis Batch: 8340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-9	FS09	Total/NA	Solid	8015B NM	8374

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

GC Semi VOA (Continued)

Analysis Batch: 8340 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-10	FS10	Total/NA	Solid	8015B NM	8374
890-1299-11	FS11	Total/NA	Solid	8015B NM	8374
890-1299-12	FS12	Total/NA	Solid	8015B NM	8374
890-1299-13	FS13	Total/NA	Solid	8015B NM	8374
890-1299-14	FS14	Total/NA	Solid	8015B NM	8374
890-1299-15	FS15	Total/NA	Solid	8015B NM	8374
890-1299-16	FS16	Total/NA	Solid	8015B NM	8374
MB 880-8374/1-A	Method Blank	Total/NA	Solid	8015B NM	8374
LCS 880-8374/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8374
LCSD 880-8374/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8374
880-6453-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	8374
880-6453-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	8374

Prep Batch: 8374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-9	FS09	Total/NA	Solid	8015NM Prep	
890-1299-10	FS10	Total/NA	Solid	8015NM Prep	
890-1299-11	FS11	Total/NA	Solid	8015NM Prep	
890-1299-12	FS12	Total/NA	Solid	8015NM Prep	
890-1299-13	FS13	Total/NA	Solid	8015NM Prep	
890-1299-14	FS14	Total/NA	Solid	8015NM Prep	
890-1299-15	FS15	Total/NA	Solid	8015NM Prep	
890-1299-16	FS16	Total/NA	Solid	8015NM Prep	
MB 880-8374/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8374/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8374/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-6453-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-6453-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 8396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-1	FS01	Total/NA	Solid	8015NM Prep	
890-1299-2	FS02	Total/NA	Solid	8015NM Prep	
890-1299-3	FS03	Total/NA	Solid	8015NM Prep	
890-1299-4	FS04	Total/NA	Solid	8015NM Prep	
890-1299-5	FS05	Total/NA	Solid	8015NM Prep	
890-1299-6	FS06	Total/NA	Solid	8015NM Prep	
890-1299-7	FS07	Total/NA	Solid	8015NM Prep	
890-1299-8	FS08	Total/NA	Solid	8015NM Prep	
MB 880-8396/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8396/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1299-1 MS	FS01	Total/NA	Solid	8015NM Prep	
890-1299-1 MSD	FS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 8405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-1	FS01	Total/NA	Solid	8015B NM	8396
890-1299-2	FS02	Total/NA	Solid	8015B NM	8396
890-1299-3	FS03	Total/NA	Solid	8015B NM	8396
890-1299-4	FS04	Total/NA	Solid	8015B NM	8396

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

GC Semi VOA (Continued)

Analysis Batch: 8405 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-5	FS05	Total/NA	Solid	8015B NM	8396
890-1299-6	FS06	Total/NA	Solid	8015B NM	8396
890-1299-7	FS07	Total/NA	Solid	8015B NM	8396
890-1299-8	FS08	Total/NA	Solid	8015B NM	8396
MB 880-8396/1-A	Method Blank	Total/NA	Solid	8015B NM	8396
LCS 880-8396/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8396
LCSD 880-8396/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8396
890-1299-1 MS	FS01	Total/NA	Solid	8015B NM	8396
890-1299-1 MSD	FS01	Total/NA	Solid	8015B NM	8396

HPLC/IC

Leach Batch: 8380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-3	FS03	Soluble	Solid	DI Leach	
890-1299-4	FS04	Soluble	Solid	DI Leach	
890-1299-5	FS05	Soluble	Solid	DI Leach	
890-1299-6	FS06	Soluble	Solid	DI Leach	
890-1299-7	FS07	Soluble	Solid	DI Leach	
890-1299-8	FS08	Soluble	Solid	DI Leach	
890-1299-9	FS09	Soluble	Solid	DI Leach	
890-1299-10	FS10	Soluble	Solid	DI Leach	
890-1299-11	FS11	Soluble	Solid	DI Leach	
890-1299-12	FS12	Soluble	Solid	DI Leach	
890-1299-13	FS13	Soluble	Solid	DI Leach	
890-1299-14	FS14	Soluble	Solid	DI Leach	
890-1299-15	FS15	Soluble	Solid	DI Leach	
890-1299-16	FS16	Soluble	Solid	DI Leach	
MB 880-8380/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8380/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8380/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1299-8 MS	FS08	Soluble	Solid	DI Leach	
890-1299-8 MSD	FS08	Soluble	Solid	DI Leach	

Leach Batch: 8386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-1	FS01	Soluble	Solid	DI Leach	
890-1299-2	FS02	Soluble	Solid	DI Leach	
MB 880-8386/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8386/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8386/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-6454-A-35-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-6454-A-35-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 8418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-3	FS03	Soluble	Solid	300.0	8380
890-1299-4	FS04	Soluble	Solid	300.0	8380
890-1299-5	FS05	Soluble	Solid	300.0	8380
890-1299-6	FS06	Soluble	Solid	300.0	8380
890-1299-7	FS07	Soluble	Solid	300.0	8380

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

HPLC/IC (Continued)

Analysis Batch: 8418 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-8	FS08	Soluble	Solid	300.0	8380
890-1299-9	FS09	Soluble	Solid	300.0	8380
890-1299-10	FS10	Soluble	Solid	300.0	8380
890-1299-11	FS11	Soluble	Solid	300.0	8380
890-1299-12	FS12	Soluble	Solid	300.0	8380
890-1299-13	FS13	Soluble	Solid	300.0	8380
890-1299-14	FS14	Soluble	Solid	300.0	8380
890-1299-15	FS15	Soluble	Solid	300.0	8380
890-1299-16	FS16	Soluble	Solid	300.0	8380
MB 880-8380/1-A	Method Blank	Soluble	Solid	300.0	8380
LCS 880-8380/2-A	Lab Control Sample	Soluble	Solid	300.0	8380
LCSD 880-8380/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8380
890-1299-8 MS	FS08	Soluble	Solid	300.0	8380
890-1299-8 MSD	FS08	Soluble	Solid	300.0	8380

Analysis Batch: 8473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1299-1	FS01	Soluble	Solid	300.0	8386
890-1299-2	FS02	Soluble	Solid	300.0	8386
MB 880-8386/1-A	Method Blank	Soluble	Solid	300.0	8386
LCS 880-8386/2-A	Lab Control Sample	Soluble	Solid	300.0	8386
LCSD 880-8386/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8386
880-6454-A-35-E MS	Matrix Spike	Soluble	Solid	300.0	8386
880-6454-A-35-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	8386

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS01

Lab Sample ID: 890-1299-1

Date Collected: 09/22/21 08:55

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 16:29	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8396	09/24/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8405	09/25/21 22:56	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8386	09/24/21 15:32	SC	XEN MID
Soluble	Analysis	300.0		1			8473	09/27/21 20:14	CH	XEN MID

Client Sample ID: FS02

Lab Sample ID: 890-1299-2

Date Collected: 09/22/21 09:00

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 16:50	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8396	09/24/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8405	09/25/21 23:59	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8386	09/24/21 15:32	SC	XEN MID
Soluble	Analysis	300.0		1			8473	09/27/21 20:20	CH	XEN MID

Client Sample ID: FS03

Lab Sample ID: 890-1299-3

Date Collected: 09/22/21 09:05

Matrix: Solid

Date Received: 09/22/21 16:30

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	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 17:10	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8396	09/24/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8405	09/26/21 00:20	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 03:05	CH	XEN MID

Client Sample ID: FS04

Lab Sample ID: 890-1299-4

Date Collected: 09/22/21 09:10

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 17:31	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8396	09/24/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8405	09/26/21 00:41	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 03:10	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS05

Lab Sample ID: 890-1299-5

Date Collected: 09/22/21 09:15

Matrix: Solid

Date Received: 09/22/21 16:30

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	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 17:51	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8396	09/24/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8405	09/26/21 01:02	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 03:16	CH	XEN MID

Client Sample ID: FS06

Lab Sample ID: 890-1299-6

Date Collected: 09/22/21 09:20

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 18:12	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8396	09/24/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8405	09/26/21 01:24	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 03:21	CH	XEN MID

Client Sample ID: FS07

Lab Sample ID: 890-1299-7

Date Collected: 09/22/21 09:25

Matrix: Solid

Date Received: 09/22/21 16:30

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	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 20:16	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8396	09/24/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8405	09/26/21 01:45	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 03:27	CH	XEN MID

Client Sample ID: FS08

Lab Sample ID: 890-1299-8

Date Collected: 09/22/21 09:30

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 20:36	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8396	09/24/21 16:32	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8405	09/26/21 02:06	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 03:33	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS09

Lab Sample ID: 890-1299-9

Date Collected: 09/22/21 13:15

Matrix: Solid

Date Received: 09/22/21 16:30

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	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 20:57	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	8374	09/24/21 14:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8340	09/25/21 01:50	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 03:49	CH	XEN MID

Client Sample ID: FS10

Lab Sample ID: 890-1299-10

Date Collected: 09/22/21 13:40

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 21:18	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8374	09/24/21 14:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8340	09/25/21 02:13	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 03:55	CH	XEN MID

Client Sample ID: FS11

Lab Sample ID: 890-1299-11

Date Collected: 09/22/21 13:55

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 21:38	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	8374	09/24/21 14:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8340	09/25/21 02:35	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 04:12	CH	XEN MID

Client Sample ID: FS12

Lab Sample ID: 890-1299-12

Date Collected: 09/22/21 12:35

Matrix: Solid

Date Received: 09/22/21 16:30

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	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 21:59	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8374	09/24/21 14:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8340	09/25/21 02:57	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 04:17	CH	XEN MID

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Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Client Sample ID: FS13

Lab Sample ID: 890-1299-13

Date Collected: 09/22/21 11:00

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 22:19	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	8374	09/24/21 14:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8340	09/25/21 03:19	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 04:23	CH	XEN MID

Client Sample ID: FS14

Lab Sample ID: 890-1299-14

Date Collected: 09/22/21 11:05

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 22:40	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8374	09/24/21 14:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8340	09/25/21 03:43	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 04:29	CH	XEN MID

Client Sample ID: FS15

Lab Sample ID: 890-1299-15

Date Collected: 09/22/21 10:30

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 23:00	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	8374	09/24/21 14:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8340	09/25/21 04:04	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 04:34	CH	XEN MID

Client Sample ID: FS16

Lab Sample ID: 890-1299-16

Date Collected: 09/22/21 10:35

Matrix: Solid

Date Received: 09/22/21 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	8397	09/24/21 16:50	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8448	09/27/21 23:20	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	8374	09/24/21 14:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8340	09/25/21 04:26	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8380	09/24/21 15:17	SC	XEN MID
Soluble	Analysis	300.0		1			8418	09/26/21 04:40	CH	XEN MID

Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy 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	T104704400-21-22	06-30-22

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

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

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2H

Job ID: 890-1299-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1299-1	FS01	Solid	09/22/21 08:55	09/22/21 16:30	1
890-1299-2	FS02	Solid	09/22/21 09:00	09/22/21 16:30	1
890-1299-3	FS03	Solid	09/22/21 09:05	09/22/21 16:30	1
890-1299-4	FS04	Solid	09/22/21 09:10	09/22/21 16:30	1
890-1299-5	FS05	Solid	09/22/21 09:15	09/22/21 16:30	1
890-1299-6	FS06	Solid	09/22/21 09:20	09/22/21 16:30	1
890-1299-7	FS07	Solid	09/22/21 09:25	09/22/21 16:30	1
890-1299-8	FS08	Solid	09/22/21 09:30	09/22/21 16:30	1
890-1299-9	FS09	Solid	09/22/21 13:15	09/22/21 16:30	1.5
890-1299-10	FS10	Solid	09/22/21 13:40	09/22/21 16:30	1.5
890-1299-11	FS11	Solid	09/22/21 13:55	09/22/21 16:30	1.5
890-1299-12	FS12	Solid	09/22/21 12:35	09/22/21 16:30	1.5
890-1299-13	FS13	Solid	09/22/21 11:00	09/22/21 16:30	1
890-1299-14	FS14	Solid	09/22/21 11:05	09/22/21 16:30	1
890-1299-15	FS15	Solid	09/22/21 10:30	09/22/21 16:30	1
890-1299-16	FS16	Solid	09/22/21 10:35	09/22/21 16:30	1



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 2

Project Manager:	Joseph Hernandez	Bill to: (if different)	WSP Attn: Joseph Hernandez
Company Name:	WSP USA	Company Name:	
Address:	3300 N A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	801-702-2329	Email:	anna.byers@wsp.com

Work Order Comments			
Program:	UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐		
State of Project:			
Reporting:	Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐		
Deliverables:	EDD ☐ ADAPT ☐ Other: _____		

Project Name:	Machine Grande 24	Turn Around	
Project Number:	3408152.004	☐ Routine ☒ Rush	
Project Location:	Eldorado County	Due Date:	3/24/21
Sampler's Name:	Anna Byers	TAT starts the day received by the lab, if received by 4:30pm	
P.O. #:	WBS.C.20.0834.001	Wet/ice:	Yes ☒ No ☐
SAMPLE RECEIPT		Thermometer ID:	7NW-003
Samples Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.2
Cooler Custody Seals:	Yes ☒ No ☐	Temperature Reading:	1.4
Sample Custody Seals:	Yes ☒ No ☐	Corrected Temperature:	1.4
Total Containers:			



890-1299 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Preservative Codes	Sample Comments
FS01	3	9/22/21	0855	1'	Comp	1	TPH (EPA 8015 Mod)	None: NO	Incident ID: 018933045
FS02			0900	1'		1	BTEX (EPA 8021 B)	DI Water: H ₂ O	
FS03			0905	1'		1	Chloride (EPA 800.0)	Cool: Cool	
FS04			0910	1'		1		HCL: HC	
FS05			0915	1'		1		H ₂ SO ₄ : H ₂	
FS06			0920	1'		1		H ₂ PO ₄ : HP	
FS07			0925	1'		1		NaHSO ₄ : NABIS	
FS08			0930	1'		1		Na ₂ S ₂ O ₅ : NaSO ₃	
FS09			1315	1.5'		1		Zn Acetate+NaOH: Zn	
FS10			1340	1.5'		1		NaOH+Ascorbic Acid: SARC	

Total 2007 / 6010 2008 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SIO₂ Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Joe Goff	9.22.21 1630			



Environment Testing

Xenco

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
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Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

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Page 2 of 2

Project Manager:	Joseph Hernandez	Bill to: (if different)	Attn: Joseph Hernandez
Company Name:	WSP USA	Company Name:	
Address:	3800 N A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	281-782-2829	Email:	anna.byers@wsp.com

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

Project Name:	Maximo Grande 24	Turn Around	3 DAY
Project Number:	31403152.004	☐ Routine ☒ Rush	Pres. Code
Project Location:	Eddy County	Due Date:	3 DAY
Sample's Name:	Anna Byers	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	WBS CL.21.011834.001		
SAMPLE RECEIPT	Temp Blank: Yes No	Wet Ice: Yes No	
Samples Received Intact:	Yes No	Thermometer ID: _____	
Cooler Custody Seals:	Yes No N/A	Correction Factor: _____	
Sample Custody Seals:	Yes No N/A	Temperature Reading: _____	
Total Containers:		Corrected Temperature: _____	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS11	S	9/22/21	13:55	1.5'	Comp	1	TPH (EPA 8015.Med)		None: NO	Incident ID: NAPP211893045
FS12			12:35	1.5'		1	BTEX (EPA 8021.B)		DI Water: H ₂ O	
FS13			11:00	1'		1	Chloride (EPA 300.0)		Cool: Cool	
FS14			11:05	1'		1			MeOH: Me	
FS15			10:40	1'		1			HCL: HCl	
FS16			10:35	1'		1			H ₂ SO ₄ : H ₂	
									H ₂ SO ₄ : HP	
									NaHSO ₄ : NABIS	
									Na ₂ O ₂ : NaSO ₃	
									Zn Acetate+NaOH: Zn	
									NaOH+Ascorbic Acid: SAPC	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Pb 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 Hg: 1631 / 245.1 / 7470 / 7471

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

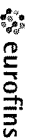
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Joe Coif	9-22-21 11:03 B			

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Eurofins Xenco, Carlsbad

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

Chain of Custody Record



Environment Testing
America

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No					
Client Contact:		Phone:	Kramer Jessica		890-426-1					
Shipping/Receiving		E-Mail	jessica.kramer@eurofins.com	State of Origin:	Page: 1 of 2					
Company:		Accreditations Required (See note):	NELAP - Louisiana NELAP - Texas		Page 1 of 2					
Address	1211 W Florida Ave	Due Date Requested	9/29/2021		Job #:					
City	Midland	TAT Requested (days)			890-1299-1					
State, Zip:	TX, 79701									
Phone	432-704-5440(Tel)	PO #:								
Email		WO #:								
Project Name	Macio Grande 2H	Project #	89000048							
Site:		SSOW#								
				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 - AsHClO2 P - Na2CO3 Q - Na2SO4 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=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of containers	Special Instructions/Note:
FS01 (890-1299-1)	9/22/21	08 55	Mountain	Solid		X	X	X		
FS02 (890-1299-2)	9/22/21	09 00	Mountain	Solid		X	X	X		
FS03 (890-1299-3)	9/22/21	09 05	Mountain	Solid		X	X	X		
FS04 (890-1299-4)	9/22/21	09 10	Mountain	Solid		X	X	X		
FS05 (890-1299-5)	9/22/21	09 15	Mountain	Solid		X	X	X		
FS06 (890-1299-6)	9/22/21	09 20	Mountain	Solid		X	X	X		
FS07 (890-1299-7)	9/22/21	09 25	Mountain	Solid		X	X	X		
FS08 (890-1299-8)	9/22/21	09 30	Mountain	Solid		X	X	X		
FS09 (890-1299-9)	9/22/21	13 15	Mountain	Solid		X	X	X		
Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analysis & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other institutions 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		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months								
Unconfirmed										
Deliverable Requested I II III IV Other (specify)		Primary Deliverable Rank 2		Special Instructions/QC Requirements.						
Empty Kit Relinquished by		Date/Time	Date	Time	Method of Shipment:					
Relinquished by		Date/Time			Received by					
Relinquished by		Date/Time			Received by					
Relinquished by		Date/Time			Received by					
Custody Seals Intact.		Custody Seal No		Cooler Temperature(s) °C and Other Remarks						
Δ Yes Δ No				20312.8						

Eurofins Xenco, Carlsbad

Environment Testing America

Chain of Custody Record

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

[illegible]

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1299-1

SDG Number: Eddy County NM

Login Number: 1299

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: 890-1299-1

SDG Number: Eddy County NM

Login Number: 1299

List Source: Eurofins Xenco, Midland

List Number: 2

List Creation: 09/24/21 01:44 PM

Creator: Copeland, Tatiana

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	2.3 / 2.8
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: 890-1341-1

Laboratory Sample Delivery Group: 31403152.004

Client Project/Site: Macho Grande 2h

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:
10/1/2021 8:34:41 PM

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

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results through

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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: Macho Grande 2h

Laboratory Job ID: 890-1341-1
SDG: 31403152.004

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	13
Certification Summary	14
Method Summary	15
Sample Summary	16
Chain of Custody	17
Receipt Checklists	19

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

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

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
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: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

Job ID: 890-1341-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

**Job Narrative
890-1341-1**

Receipt

The sample was received on 9/30/2021 1:34 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 time was 4.8°C

GC VOA

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

GC Semi VOA

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

HPLC/IC

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: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

Client Sample ID: FS12

Lab Sample ID: 890-1341-1

Date Collected: 09/30/21 12:35

Matrix: Solid

Date Received: 09/30/21 13:34

Sample Depth: 1.75

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/01/21 09:00	10/01/21 15:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/01/21 09:00	10/01/21 15:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/01/21 09:00	10/01/21 15:09	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/01/21 09:00	10/01/21 15:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/01/21 09:00	10/01/21 15:09	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/01/21 09:00	10/01/21 15:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	10/01/21 09:00	10/01/21 15:09	1
1,4-Difluorobenzene (Surr)	86		70 - 130	10/01/21 09:00	10/01/21 15:09	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00200	U	0.00200	mg/Kg			10/01/21 10:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/01/21 14:57	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		10/01/21 08:14	10/01/21 14:12	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/01/21 08:14	10/01/21 14:12	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/01/21 08:14	10/01/21 14:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	10/01/21 08:14	10/01/21 14:12	1
o-Terphenyl	112		70 - 130	10/01/21 08:14	10/01/21 14:12	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	202		4.95	mg/Kg			10/01/21 17:05	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

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)
890-1337-A-1-B MS	Matrix Spike	148 S1+	70
890-1337-A-1-C MSD	Matrix Spike Duplicate	96	97
890-1341-1	FS12	99	86
LCS 880-8649/1-A	Lab Control Sample	94	90
LCSD 880-8649/2-A	Lab Control Sample Dup	96	100
MB 880-8649/5-A	Method Blank	106	102
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)
890-1329-A-6-E MS	Matrix Spike	97	93
890-1329-A-6-F MSD	Matrix Spike Duplicate	91	84
890-1341-1	FS12	106	112
LCS 880-8709/2-A	Lab Control Sample	98	91
LCSD 880-8709/3-A	Lab Control Sample Dup	97	90
MB 880-8709/1-A	Method Blank	97	105
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-8649/5-A

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8649

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/01/21 09:00	10/01/21 12:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/01/21 09:00	10/01/21 12:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/01/21 09:00	10/01/21 12:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/01/21 09:00	10/01/21 12:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/01/21 09:00	10/01/21 12:42	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/01/21 09:00	10/01/21 12:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	10/01/21 09:00	10/01/21 12:42	1
1,4-Difluorobenzene (Surr)	102		70 - 130	10/01/21 09:00	10/01/21 12:42	1

Lab Sample ID: LCS 880-8649/1-A

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08010		mg/Kg		80	70 - 130
Toluene	0.100	0.09485		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.09154		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	0.200	0.1634		mg/Kg		82	70 - 130
o-Xylene	0.100	0.07737		mg/Kg		77	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Lab Sample ID: LCSD 880-8649/2-A

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8649

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08627		mg/Kg		86	70 - 130	7	35
Toluene	0.100	0.1029		mg/Kg		103	70 - 130	8	35
Ethylbenzene	0.100	0.1034		mg/Kg		103	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.1758		mg/Kg		88	70 - 130	7	35
o-Xylene	0.100	0.08378		mg/Kg		84	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 890-1337-A-1-C MSD

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8649

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.05294		mg/Kg					
Toluene	<0.00200	U	0.0998	0.08124		mg/Kg					

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

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

Lab Sample ID: 890-1337-A-1-C MSD

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8649

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00200	U	0.0998	0.08055		mg/Kg					
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1475		mg/Kg					
o-Xylene	<0.00200	U	0.0998	0.06754		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-1337-A-1-B MS

Matrix: Solid

Analysis Batch: 8713

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	148	S1+	70 - 130
1,4-Difluorobenzene (Surr)	70		70 - 130

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

Lab Sample ID: MB 880-8709/1-A

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 8709

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		10/01/21 08:14	10/01/21 10:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/01/21 08:14	10/01/21 10:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/01/21 08:14	10/01/21 10:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	10/01/21 08:14	10/01/21 10:16	1
o-Terphenyl	105		70 - 130	10/01/21 08:14	10/01/21 10:16	1

Lab Sample ID: LCS 880-8709/2-A

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 8709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	771.1		mg/Kg		77	70 - 130
Diesel Range Organics (Over C10-C28)	1000	908.2		mg/Kg		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	91		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

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

Lab Sample ID: LCSD 880-8709/3-A

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 8709

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	829.0		mg/Kg		83	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	878.4		mg/Kg		88	70 - 130	3	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	97		70 - 130						
o-Terphenyl	90		70 - 130						

Lab Sample ID: 890-1329-A-6-E MS

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 8709

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	997	952.8		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	997	861.1		mg/Kg		86	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	97		70 - 130								
o-Terphenyl	93		70 - 130								

Lab Sample ID: 890-1329-A-6-F MSD

Matrix: Solid

Analysis Batch: 8699

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 8709

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	920.7		mg/Kg		92	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	784.1		mg/Kg		78	70 - 130	9	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	91		70 - 130								
o-Terphenyl	84		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-8725/1-A

Matrix: Solid

Analysis Batch: 8746

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			10/01/21 14:25	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-8725/2-A

Matrix: Solid

Analysis Batch: 8746

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	260.0		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-8725/3-A

Matrix: Solid

Analysis Batch: 8746

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	259.2		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-1338-A-1-F MS

Matrix: Solid

Analysis Batch: 8746

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	63.9		250	319.8		mg/Kg		103	90 - 110

Lab Sample ID: 890-1338-A-1-G MSD

Matrix: Solid

Analysis Batch: 8746

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	63.9		250	320.8		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

GC VOA

Prep Batch: 8649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1341-1	FS12	Total/NA	Solid	5035	
MB 880-8649/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-8649/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-8649/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1337-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 8713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1341-1	FS12	Total/NA	Solid	8021B	8649
MB 880-8649/5-A	Method Blank	Total/NA	Solid	8021B	8649
LCS 880-8649/1-A	Lab Control Sample	Total/NA	Solid	8021B	8649
LCSD 880-8649/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	8649
890-1337-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	
890-1337-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	8649

Analysis Batch: 8723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1341-1	FS12	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 8699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1341-1	FS12	Total/NA	Solid	8015B NM	8709
MB 880-8709/1-A	Method Blank	Total/NA	Solid	8015B NM	8709
LCS 880-8709/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	8709
LCSD 880-8709/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	8709
890-1329-A-6-E MS	Matrix Spike	Total/NA	Solid	8015B NM	8709
890-1329-A-6-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	8709

Prep Batch: 8709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1341-1	FS12	Total/NA	Solid	8015NM Prep	
MB 880-8709/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-8709/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-8709/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1329-A-6-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1329-A-6-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 8748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1341-1	FS12	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 8725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1341-1	FS12	Soluble	Solid	DI Leach	
MB 880-8725/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-8725/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-8725/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1338-A-1-F MS	Matrix Spike	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

HPLC/IC (Continued)

Leach Batch: 8725 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1338-A-1-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 8746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1341-1	FS12	Soluble	Solid	300.0	8725
MB 880-8725/1-A	Method Blank	Soluble	Solid	300.0	8725
LCS 880-8725/2-A	Lab Control Sample	Soluble	Solid	300.0	8725
LCSD 880-8725/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	8725
890-1338-A-1-F MS	Matrix Spike	Soluble	Solid	300.0	8725
890-1338-A-1-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	8725

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

Client Sample ID: FS12

Lab Sample ID: 890-1341-1

Date Collected: 09/30/21 12:35

Matrix: Solid

Date Received: 09/30/21 13:34

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	8649	10/01/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	8713	10/01/21 15:09	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			8723	10/01/21 10:25	KL	XEN MID
Total/NA	Analysis	8015 NM		1			8748	10/01/21 14:57	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	8709	10/01/21 08:14	DM	XEN MID
Total/NA	Analysis	8015B NM		1			8699	10/01/21 14:12	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	8725	10/01/21 11:31	CA	XEN MID
Soluble	Analysis	300.0		1			8746	10/01/21 17:05	CH	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: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Eurofins Xenco, Carlsbad

Sample Summary

Client: WSP USA Inc.
Project/Site: Macho Grande 2h

Job ID: 890-1341-1
SDG: 31403152.004

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1341-1	FS12	Solid	09/30/21 12:35	09/30/21 13:34	1.75

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 Casabad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Attn: WSP: Joseph Hernandez
Company Name:	WSP USA	Company Name:	
Address:	3300 N A Street	Address:	
City, State ZIP:	Midland, TX, 79705	City, State ZIP:	
Phone:	(281) 302-2329	Email:	anna.byses@wsp.com

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

Project Name:	Mach's Grande 2H	Turn Around	
Project Number:	3403152.024	Routine	☐
Project Location:	Fddy County	Rush: same day	
Sampler's Name:	Anna Byes	Due Date:	
PO #: WBS CL 2101834 P01	Quote #:		

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

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
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FS12	S	9/30/21	1235	1.75'	1	X	TPH (EPA 8015 Mod)		Incident ID: APP210832495
						X	BTEX (EPA 8021 B)		
						X	Chloride (EPA 8008)		

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

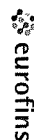
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byes	Chaeef	9:30:21 1334			

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: 890-1341-1
SDG Number: 31403152.004Login Number: 1341
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: 890-1341-1
SDG Number: 31403152.004

Login Number: 1341

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland

List Creation: 10/01/21 11:05 AM

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	2.4/2.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 53605

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 53605
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2118933045 MACHO GRANDE 2H, thank you. This closure is approved.	2/16/2022