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

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141 Revised August 24, 2018 Submit to appropriate OCD District office

Incident ID	NAPP2102831345
District RP	
Facility ID	
Application ID	

#### **Release Notification**

#### **Responsible Party**

Responsible Party XTO Energy			OGRID	OGRID 5380		
Contact Name Kyle Littrell			Contact T	Contact Telephone 432-221-7331		
Contact email kyle.littrel	l@exxonmobil.com	ກ	Incident #	(assigned by OCD)		
Contact mailing address	522 W. Mermod	, Carlsbad, NM 882	20			
		Location o	f Release S	Source		
Latitude 32.56700			Longitude	-103.77900		
		(NAD 83 in decim	nal degrees to 5 deci			
Site Name BEU 29W V	ader 100H		Site Type	Well Head		
Date Release Discovered	1-14-21		API# (if app	oplicable)		
Unit Letter Section	Township	Range	Cour	intv		
	208	32E		-		
M 16	203	JZE	Lea	ca		
				e justification for the volumes provided below)		
Crude Oil	Volume Release			Volume Recovered (bbls)		
Produced Water	Volume Release			Volume Recovered (bbls)		
		ion of total dissolve water >10,000 mg/l?		☐ Yes ☐ No		
Condensate	Volume Release			Volume Recovered (bbls)		
☐ Natural Gas	Volume Release	d (Mcf)		Volume Recovered (Mcf)		
▼ Other (describe)	Volume/Weight	Released (provide u	ınits)	Volume/Weight Recovered (provide units)		
Recycled water	30 bbls			30 bbls		
contain	ment. A 48-hour a	dvance liner inspec	tion notice was g	ed, causing a total of 30 bbls recycled water to spill into given to NMOCD District 2. Liner was inspected and attractor has been retained for remediation activities.		

Form C-141 Page 2

## State of New Mexico Oil Conservation Division

Incident ID	NAPP2102831345
District RP	
Facility ID	
Application ID	

Was this a major	If YES, for what reason(s) does the re	esponsible party consider this a major release?
release as defined by 19.15.29.7(A) NMAC?	A release greater than or equal to 25 b	arrels.
19.13.29.7(A) NIVIAC:		
Yes No		
If YES, was immediate r	notice given to the OCD? By whom? To	o whom? When and by what means (phone, email, etc)?
		ert, EMNRD; Venegas, Victoria, EMNRD;
emily.hernandez@state.n	ım.us; Mann, Ryan on Friday, January 1	-
	Initial	Response
The responsible	party must undertake the following actions immed	diately unless they could create a safety hazard that would result in injury
➤ The source of the rel	lease has been stopped	
1 =	as been secured to protect human health	and the environment.
Released materials h	ave been contained via the use of berms	or dikes, absorbent pads, or other containment devices.
	recoverable materials have been remove	-
	ed above have <u>not</u> been undertaken, expl	- 11 1 1
NA		··y ·
		ace remediation immediately after discovery of a release. If remediation dial efforts have been successfully completed or if the release occurred
		C), please attach all information needed for closure evaluation.
		the best of my knowledge and understand that pursuant to OCD rules and
		notifications and perform corrective actions for releases which may endanger
		the OCD does not relieve the operator of liability should their operations have
		threat to groundwater, surface water, human health or the environment. In or of responsibility for compliance with any other federal, state, or local laws
and/or regulations.	· ·	
Printed Name: Kyle Litt	rell	Title: Environmental Manager
Timed Ivanic.	A. H	
Signature	Jelle	Date:
email: kyle.littrell@exxc	onmobil.com	Telephone: 432-221-7331
oman.		reiephone.
OCD Only		
Ramo Ramo	na Marcus	Deta: 5/3/2021
Received by:Ramo		Date: <u>5/3/2021</u>

#### NAPP2102831345

Location:	BEU 29 Vader 100H			
Spill Date: 1/14/2021				
	Area 1			
Approximate Area =		126.33	cu. ft.	
	VOLUME OF LEAK			
Total Recycled Water =		30.00	bbls	

TOTAL VOLUME O	F LEAK
Total Recycled Water =	30.00 bbls
TOTAL VOLUME REC	COVERED
Total Recycled Water =	30.00 bbls

	Page 4 of 23	33
Incident ID	nAPP2102831345	
District RP		
Facility ID		
Application ID		

#### **Site Assessment/Characterization**

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&lt;50</u> (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 <b>not</b> 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 vercontamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	rtical extents of soil
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 well Field data	ls.
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  Lebersters date including chain of custody.	
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	

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.

Received by OCD: 6/24/2022 9:32:36 AM Form C-141 State of New Mexico Oil Conservation Division Page 4

Page 5 of 233

Incident ID	nAPP2102831345	
District RP		
Facility ID		
Application ID		

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Adrian Baker\_ Title: <u>Environmental Coordinator</u> Printed Name: Signature: Odvion I Date: 6/24/2022 email: <u>adrian.baker@exxonmobile.com</u> Telephone: (432) 236-3808 OCD Only Received by: Date: \_\_\_\_\_

	Page 6 of 23	3
Incident ID	nAPP2102831345	
District RP		
Facility ID		
Application ID		

### **Remediation Plan**

Remediation Plan Checklist: Each of the following items must be	included in the plan.
<ul> <li>☑ Detailed description of proposed remediation technique</li> <li>☑ Scaled sitemap with GPS coordinates showing delineation point</li> <li>☑ Estimated volume of material to be remediated</li> <li>☑ Closure criteria is to Table 1 specifications subject to 19.15.29.1</li> <li>☑ Proposed schedule for remediation (note if remediation plan times)</li> </ul>	2(C)(4) NMAC
Deferral Requests Only: Each of the following items must be con-	firmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around predeconstruction.	oduction equipment where remediation could cause a major facility
Extents of contamination must be fully delineated.	
Contamination does not cause an imminent risk to human health	, the environment, or groundwater.
which may endanger public health or the environment. The acceptar liability should their operations have failed to adequately investigate surface water, human health or the environment. In addition, OCD a responsibility for compliance with any other federal, state, or local land	ertain release notifications and perform corrective actions for releases are of a C-141 report by the OCD does not relieve the operator of and remediate contamination that pose a threat to groundwater, acceptance of a C-141 report does not relieve the operator of aws and/or regulations.
Printed Name: Adrian Baker_	Title:Environmental Coordinator
Signature: Odvian Baks	Date: <u>6/24/2022</u>
email:adrian.baker@exxonmobile.com	Telephone: <u>(432) 236-3808</u>
OCD Only	
Received by:	Date:
Approved	Approval
Signature: Jennifer Nobili	Date: 07/06/2022



June 24, 2022

District 1 New Mexico Oil Conservation Division 1625 N. French Dr. Hobbs, New Mexico 88240

Re: Revised Remediation Work Plan BEU 29W Vader 100H Incident Number NAPP2102831345 Lea County, New Mexico

#### To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared the following Revised Remediation Work Plan (Work Plan) to document the site assessment activities completed to date and propose a work plan to address the impacted soil identified at the BEU 29W Vader 100H (Site) in Unit M, Section 16, Township 20 South, Range 32 East, in Lea County, New Mexico (Figure 1). The purpose of the site assessment activities was to delineate the lateral and vertical extent of impacted soil resulting from a release of recycled water at the Site. The following Work Plan proposes to excavate of the top four feet of impacted soil that exceed Site Closure Criteria and install a 20-mil impermeable liner in the floor of the excavation to address residual impacts in soil greater than four feet deep.

This Work Plan is an update to the original Remediation Work Plan submitted on May 3, 2022. This update addresses the May 23, 2022, email from the New Mexico Oil Conservation Division (NMOCD) requesting additional vertical delineation and a decision regarding the outcome of the excavated soil. The May 23, 2022, email approved an excavation confirmation sampling frequency of every 400 square feet from the floor of the excavation and approved analysis of chloride only for the confirmation samples. A copy of the email correspondence is provided as an attachment to this report.

#### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Lea County, New Mexico (32.56700° N, 103.77900° W) and is associated with oil and gas exploration and production operations on New Mexico State Land.

On January 14, 2021, during frac operations, a pump suction hose failed and resulted in the release of 30 barrels (bbls) of recycled water into the temporary lined containment. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 30 bbls of recycled water were recovered. A 48-hour advance notice of liner inspection was provided via email to the NMOCD District I office. A liner integrity inspection was conducted by XTO personnel following the fluid recovery and upon inspection, the liner was determined to be insufficient. XTO reported the release to the NMOCD via email on January 15, 2021 and submitted a Release Notification Form C-141 on January 28, 2021. The release was assigned Incident Number NAPP2102831345.



The composition of recycled water is produced water. Produced water is recycled through filtering and separation, then mixed in a blender with friction reducer and used as hydraulic fracturing fluid during the well completion process. The safety data sheet (SDS) for friction reducer is provided as an attachment.

#### SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized 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). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is less than 50 feet below ground surface (bgs) based on the nearest groundwater well data. On October 26, 2021, a soil boring (CP-1891) was drilled at the Site utilizing a track-mounted sonic drill rig. Soil boring CP-1891 was drilled to a depth of 55 feet bgs. The location of the borehole is approximately 400 feet southeast of the release area and is depicted on Figure 1. A field geologist logged and described soils continuously. Groundwater was encountered in the soil boring at approximately 33 feet bgs. The borehole was left open for over 72 hours to allow for equilibration of groundwater levels within the temporary boring casing. After the 72-hour waiting period, it was confirmed that groundwater beneath the Site was approximately 33 feet bgs. The Well Record and Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 370 feet northeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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 AND DELINEATION ACTIVITIES

Once drilling operations were complete, a Site visit was conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. The temporary containment had been removed at the time of the Site visit. The former containment area, which also represents the release extent, was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2.

Between December 13, 2021 and March 17, 2022, delineation activities were conducted at the Site to assess the lateral and vertical extent of impacted soil. Potholes PH01 through PH09 were advanced via track mounted backhoe within and around the release extent and former containment area. The potholes were advanced to depths ranging from 6 feet to 16 feet bgs. Pothole PH01 was advanced directly beneath the former containment area to delineate the vertical extent of impacted soil. Potholes PH02 through PH09 were advanced around the former containment area to delineate the lateral extent of impacted soil. Discrete delineation soil samples were collected from each pothole at depths ranging from



2 feet to 16 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix B. The delineation soil samples were handled and analyzed as described above. The pothole delineation soil sample locations are depicted on Figure 2. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix C.

The delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

#### LABORATORY ANALYTICAL RESULTS

Benzene, BTEX, and TPH concentrations were below laboratory detection limits in all delineation soil samples collected from potholes PH01 through PH09. No hydrocarbon impacted soil was identified as a result of the release.

Laboratory analytical results for the delineation soil samples collected from pothole PH01, advanced directly beneath the former containment, indicated that chloride concentrations exceeded the Closure Criteria at depths ranging from 2 feet to 14 feet bgs. The terminal depth sample, collected at 16 feet bgs, was compliant with the Closure Criteria and successfully defined the vertical extent of impacted soil.

Laboratory analytical results for the delineation soil samples collected from potholes PH02 through PH05 indicated that chloride concentrations exceeded the Closure Criteria at depths ranging from 2 feet to 6 feet bgs. The terminal depth samples from potholes PH03 and PH05, collected at 6 feet bgs, were compliant with the Closure Criteria.

Laboratory analytical results for the delineation soil samples collected from potholes PH06 through PH09 at depths ranging from 1-foot to 7 feet bgs, indicated that chloride concentrations were compliant with Closure Criteria and defined the lateral extent of the impacted soil. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix D.

#### PROPOSED REMEDIATION WORK PLAN

The results of the delineation soil sampling suggest soil containing elevated chloride concentrations exists across a 40,000 square foot area and extends to depths ranging from 2 feet to 14 feet bgs. Based on the extent and volume of impacted soil, XTO proposes additional vertical delineation, excavation of the chloride impacted soil in the top 4 feet of the release area, and installation of a liner in the floor of the excavation to mitigate further chloride impacts to the subsurface.

XTO proposes to complete the following remediation activities:

- Vertical delineation of chloride to below 600 mg/kg at the pothole PH02 and PH04 locations.
- Excavation of chloride impacted soil to a depth of 4 feet bgs. Excavation will proceed laterally
  until sidewall samples confirm chloride concentrations are compliant with the Closure Criteria in
  the top four feet. The estimated excavation extent is shown on Figure 3.

- As approved by NMOCD, confirmation samples will be collected at a frequency of every 400 square feet from the floor of the excavation and at a frequency of every 200 square feet from the sidewalls of the excavation. The excavation samples will be analyzed for chloride only.
- Upon completion of excavation activities, a 20-mil impermeable liner will be installed over the chloride impacted soil to mitigate further chloride impacts to the subsurface. The liner will be installed at 4 feet bgs within the open excavation as shown on Figure 4.
- An estimated 6,000 cubic yards of chloride impacted soil will be excavated. The excavated soil
  will be transferred a New Mexico approved landfill facility for disposal.
- The excavation will be backfilled and recontoured to match pre-existing conditions.

XTO will complete vertical delineation, excavation activities, and liner installation within 90 days of the date of approval of this Work Plan by the NMOCD.

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or acole@ensolum.com.

Sincerely, **Ensolum**, **LLC** 

Kalei Jennings Senior Scientist

Xalui Jennings

cc: Adrian Baker, XTO

New Mexico State Land Office

Aimee Cole

Senior Managing Scientist

mée Cale

#### Appendices:

Figure 1 Site Receptor Map

Figure 2 Delineation Soil Sample Locations
Figure 3 Proposed Excavation and Liner Extent

Table 1 Soil Sample Analytical Results
Appendix A
Appendix B
Lithologic / Soil Sampling Logs

Appendix C Photographic Log

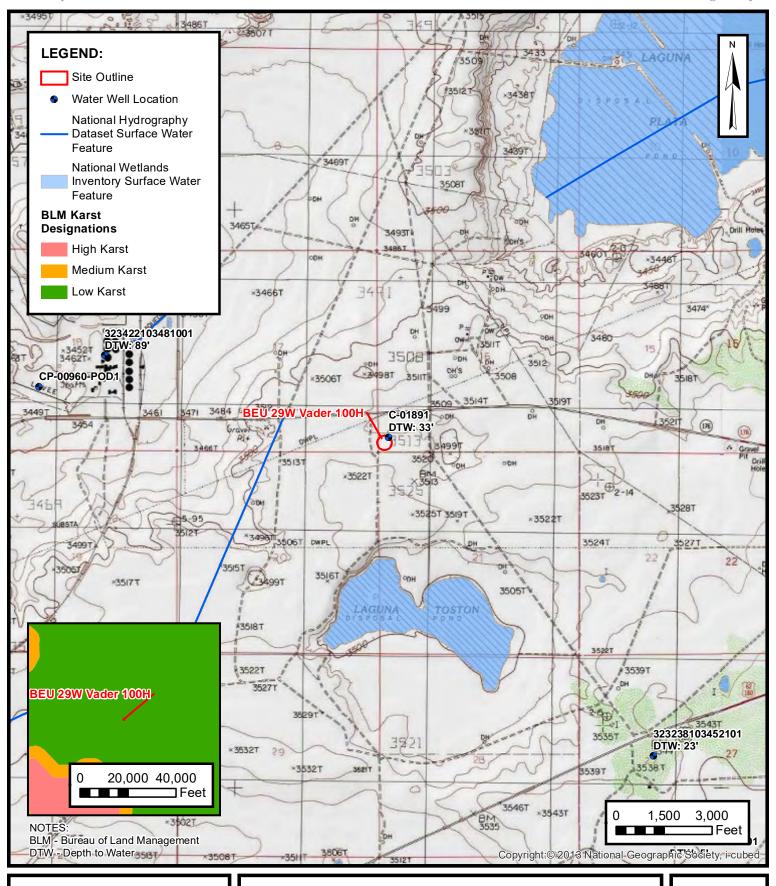
Appendix D Laboratory Analytical Reports & Chain-of-Custody Documentation

Appendix E NMOCD Notifications/Correspondence

Appendix F Friction Reducer SDS



**FIGURES** 

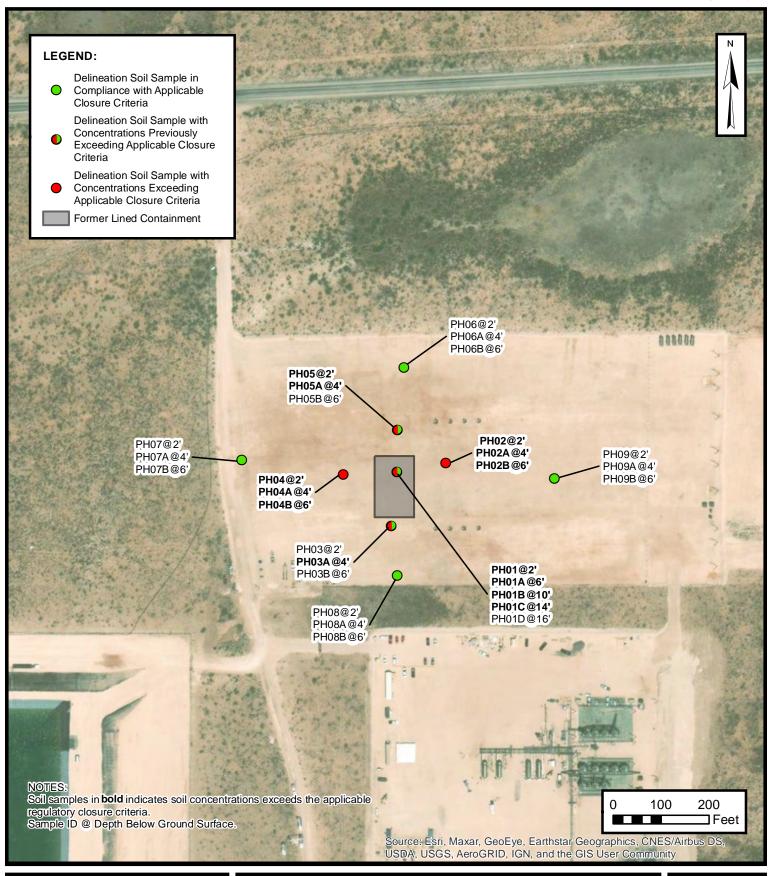




#### SITE RECEPTOR MAP

XTO ENERGY, INC BEU 29W VADER 100H nAPP2102831345 Unit M SEC 16 T20S R32E Lea County, New Mexico FIGURE

1

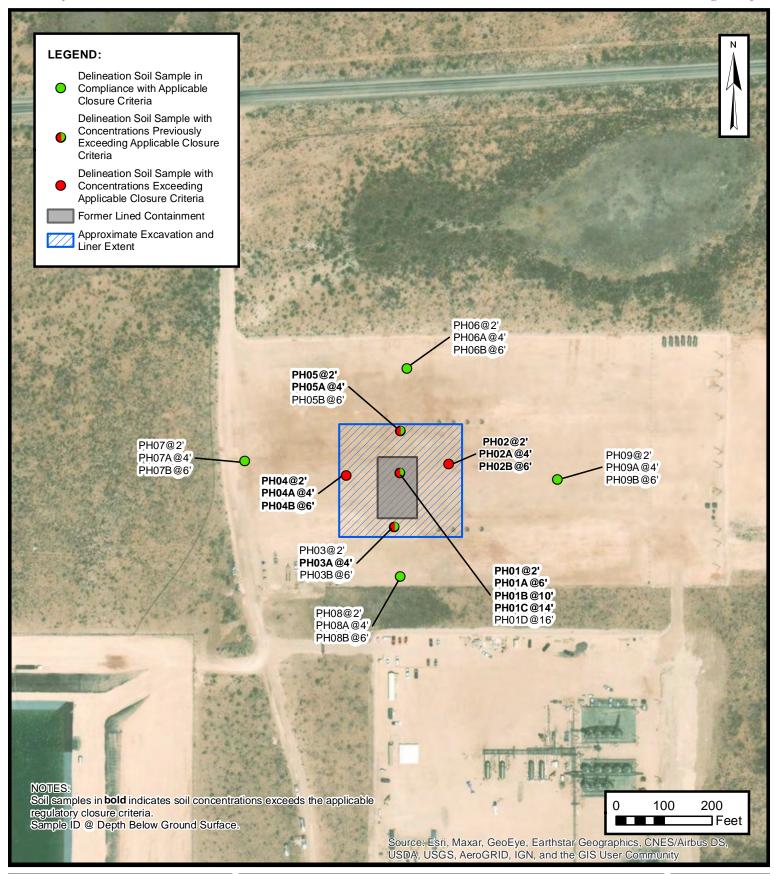




#### **DELINEATION SOIL SAMPLE LOCATIONS**

XTO ENERGY, INC BEU 29W VADER 100H nAPP2102831345 Unit M SEC 16 T20S R32E Lea County, New Mexico **FIGURE** 

2





#### PROPOSED EXCAVATION AND LINER EXTENT

XTO ENERGY, INC BEU 29W VADER 100H nAPP2102831345 Unit M SEC 16 T20S R32E Lea County, New Mexico **FIGURE** 

3



**TABLES** 



# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS XTO Energy, Inc. - BEU 29W Vader 100H Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	NE	100	600
				Delinea	ation Soil Sample Ana	alytical Results				
PH01	12/13/2021	2	< 0.00200	< 0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	5,900
PH01A	12/13/2021	6	< 0.00202	< 0.00404	<50.0	< 50.0	< 50.0	< 50.0	< 50.0	1,740
PH01B	12/13/2021	10	< 0.00201	< 0.00402	< 50.0	< 50.0	<50.0	<50.0	< 50.0	1,290
PH01C	12/13/2021	14	< 0.00201	< 0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	965
PH01D	12/13/2021	16	< 0.00200	< 0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	359
PH02	12/17/2021	2	< 0.00200	< 0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	1,170
PH02A	12/17/2021	4	< 0.00202	< 0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	1,760
PH02B	12/17/2021	6	< 0.00200	< 0.00399	<50.0	<50.0	<50.0	<50.0	< 50.0	1,980
PH03	12/17/2021	2	< 0.00199	< 0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	191
PH03A	12/17/2021	4	< 0.00200	< 0.00399	< 50.0	< 50.0	<50.0	< 50.0	< 50.0	1,150
PH03B	12/17/2021	6	< 0.00200	< 0.00400	< 50.0	< 50.0	<50.0	<50.0	< 50.0	318
PH04	12/17/2021	2	< 0.00199	< 0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	636
PH04A	12/17/2021	4	< 0.00200	< 0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	1,650
PH04B	12/17/2021	6	< 0.00199	< 0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	1,360
PH05	12/17/2021	2	< 0.00202	< 0.00403	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	962
PH05A	12/17/2021	4	< 0.00200	< 0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	1,470
PH05B	12/17/2021	6	< 0.00199	< 0.00398	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	92.5
PH06	03/16/2022	1	< 0.00200	< 0.00400	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	306
PH06A	03/16/2022	4	< 0.00201	< 0.00402	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	281
PH06B	03/16/2022	6	< 0.00200	< 0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	353
PH07	03/16/2022	1	< 0.00200	< 0.00400	< 50.0	< 50.0	<50.0	< 50.0	< 50.0	85
PH07A	03/16/2022	3	< 0.00199	< 0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	110
PH07B	03/16/2022	6	< 0.00198	< 0.00396	<49.8	<49.8	<49.8	<49.8	<49.8	424
PH08	03/17/2022	1	< 0.00199	< 0.00398	<50.0	< 50.0	< 50.0	< 50.0	<50.0	193
PH08A	03/17/2022	3	< 0.00200	< 0.00399	< 50.0	< 50.0	< 50.0	< 50.0	<50.0	18.2
PH08B	03/17/2022	6	< 0.00202	< 0.00403	< 50.0	< 50.0	< 50.0	< 50.0	<50.0	30.7
PH08C	03/17/2022	7	< 0.00200	< 0.00401	< 50.0	< 50.0	<50.0	<50.0	< 50.0	15.4

Ensolum 1 of 2



# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS XTO Energy, Inc. - BEU 29W Vader 100H Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 (	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	NE	100	600
				Delinea	tion Soil Sample Ana	lytical Results				
PH09	03/17/2022	1	< 0.00202	< 0.00404	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	321
PH09A	03/17/2022	3	< 0.00200	< 0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	107
PH09B	03/17/2022	6	< 0.00200	< 0.00401	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	104
PH09C	03/17/2022	7	< 0.00201	< 0.00402	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	112

Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Concentrations in bold exceed the NMOCD Table 1 Closure Criteria for Soils Impacted by a

Release



**APPENDIX A** 

Referenced Well Records



2904 W 2nd St. Roswell, NM 88201 voice: 575.624.2420 fax: 575.624.2421 www.atkinseng.com

11/29/2021

DII-NMOSE 1900 W 2<sup>nd</sup> Street Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record CP-1891 Pod1

To whom it may concern:

Attached please find a well log & record and a plugging record, in duplicate, for a one (1) soil borings, C-1891 Pod1.

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

Lucas Middleton

Enclosures: as noted above

Grown Wholen

09E 011NOV 29 2021 PM2/17



_												
	OSE POD NO.		D.)		WELL TAG ID NO.			OSE FILE I	10(S).			
NO.	POD1 (BI	1-01)		r	ı/a			CP-1891				
ATI	WELL OWNE	-	•					PHONE (O	PTIONAL)			
Q	XTO Energ	y (Adria	n Baker)									
TT	WELL OWNE							CITY		STATE		ZIP
VEI	6401 Holid	ay Hill D	Pr.					Midland		TX	79707	
9		- 1	DF	GREES	MINUTES	SECOND	2					
¥	WELL			32	33	59.48		* ACCURA	CY REQUIRED: ONE TEN	TH OF A SE	COND	
₩.	LOCATION (FROM GPS	24.	TITUDE	102	46	41.04	N		REQUIRED: WGS 84	1110111101		
GENERAL AND WELL LOCATION		LO	NGITUDE	103	46	41.34						
1. GE			ng well location to 6 T20S R32E, NMP		SS AND COMMON	LANDMAR	KS – PLS	S (SECTION,	TOWNSHJIP, RANGE) WI	HERE AVAII	LABLE	
	LICENSE NO.		NAME OF LICENSED	DRILLER					NAME OF WELL DE	H I ING CO	MDANW	
	124	9	NAME OF LICENSED		ckie D. Atkins						Associates, I	nc.
	DRILLING ST	ARTED	DRILLING ENDED	DEPTH OF COM	PLETED WELL (FI	n 15	ODE HOI	LE DEPTH (F.	DEPTH WATER FIR	et encorn	TERRED (PT)	
	10/26/2		10/26/2021		y well materia		OKE HOL	55	DEFIN WATER FIR	±33	VIERED (F1)	
									STATIC WATER LE	VEL IN COM	er eten we	II (ET)
_	COMPLETED	WELL IS:	ARTESIAN	T DRY HOLE	✓ SHALLO	W (UNCONF	TNED)		SIAIR WAIERLE	33.20		EE (F1)
CASING INFORMATION				- Lam	A T->	na annom						
IAT	DRILLING FL		AIR	MUD		ES – SPECIF						
R	DRILLING ME	THOD:	ROTARY	HAMMER	CABLE TO	OOL	OTHE	R – SPECIFY:	Holle	ow Stem	Auger	
NFC	DEPTH (	feet bgl)	BORE HOLE	CASING M	ATERIAL AND	/OR		ania	CASING	CASDI	G WALL	
GI	FROM	то	DIAM		GRADE			SING ECTION	INSIDE DIAM.		KNESS	SLOT SIZE
SI			(inches)		ch casing string, ctions of screen)			YPE ing diameter)	(inches)	(in	ches)	(inches)
C C	0	55	±8.5		oring- HSA		ada voqu		-		_	
2. DRILLING &												
17						11			1 1			
RI												
2. D										1		
	1											
										-		
						-						
						4						
,	DEPTH (1	feet bgl)	BORE HOLE		ANNULAR SE				AMOUNT		METHO	
IAI	FROM	ТО	DIAM. (inches)	GRAVI	EL PACK SIZE-	RANGE B	Y INTE	RVAL	(cubic feet)		PLACEM	IENT
E										1		
MA.												
¥												
<u>j</u>									1 may 1 mm may 24 mm may			
ANNULAR MATERIAL									had and have highly to the first	W Z 1 Z 1,	121 PW21	7
3.4			·10									
	14											
FOR	OSE INTERN	IAL USE						WR	-20 WELL RECORD	& LOG (V	ersion 06/30	0/17)
FILE					POD NO.			$\overline{}$	NO.	200 (1)	51011 00/30	
LOC	ATION						Ι,	WELL TAG			PAGE	1 OF 2

	DEPTH (i	feet bgl)		COLOR AN	D TYPE OF MATERIAL	NCOIN	TEDEN	777.4	MED.	ESTIM	
	FROM	то	THICKNESS (feet)	INCLUDE WATE	ER-BEARING CAVITIES ( plemental sheets to fully (	OR FRAC	TURE ZONES	BEA	TER RING? /NO)	YIELD WAT BEAR ZONES	ER- ING
	0	4	4	Ca	aliche, Mod. Consolidated,	Tan, Dry		Y	✓ N		
	4	8	4	Sand, fine	-very grained, poorly grade	d, Brown	, moist	Y	√ N		
	8	16	8	Sand, fine-very grai	ined, poorly graded, with gr	avel Pinki	sh Brown, moist	Y	√ N		
	16	20	4	Sand, fine-very grained	d, poorly graded, with claye	y gravel,	Light Brown, moi	st Y	√ N		
	20	26	6	Clayey Sand, very f	ine grained, poorly graded,	caliche gr	avel, Tan , moist	Y	√ N		
7	26	36	10	Clayey Sand, med-fin	ne grained, poorly graded, c	aliche gra	vel, Brown , moist	. ✓ Y	N		
4. HYDROGEOLOGIC LOG OF WELL	36	49	13	Sandstone, mod con	nsolidated, with increasing o	lay Reddi	sh Brown, Moist	✓ Y	N		
OF	49	55	6	Claystone,	low plasticity, cohesive, D	ark Brown	ı, moist	✓ Y	N		
Ö								Y	N		
ICI								Y	N		
007								Y	N		
EOI								Y	N		
ROG								Y	N		
[X]								Y	Ŋ		
4. F								Y	N		
								Y	N		
								Y	N		
								Y	N		
		-						Y	N		
								Y	N	a -	
	-	-						Y	N		
	METHOD U		_	OF WATER-BEARING BAILER OT	G STRATA: THER – SPECIFY:			TAL ESTE		0.0	ю
VISION	WELL TES	STAR	T TIME, END TI	ME, AND A TABLE SE	CA COLLECTED DURING HOWING DISCHARGE A	ND DRAV	VDOWN OVER 1	THE TESTI	NG PERI	DD.	
TEST; RIG SUPERVIS	MISCELLAI	NEOUS IN	to	emporary well materia surface with augers a ogs adapted from WSI	als removed and the soil is tremie. P on-site geologist.	boring pl		pe I/II neat			
5. TEST;	PRINT NAM	. ,	RILL RIG SUPER	RVISOR(S) THAT PRO	VIDED ONSITE SUPERV	ISION OF					
SIGNATURE	THE UNDER	RSIGNED I RECORD O ERMIT HO	F THE ABOVE I	DESCRIBED HOLE AN 30 DAYS AFTER COM	EEST OF HIS OR HER KN ID THAT HE OR SHE WI PLETION OF WELL DRII ckie D. Atkins	LL FILE 1	GE AND BELIEF, THIS WELL REC	ORD WITH	EGOING I THE ST	IS A TRUE ATE ENGI	E AND NEER
6.9	0	SIGNAT	URE OF DRILLE	ER / PRINT SIGNEE	NAME	_	-		DATE		=
							N/D co week	recore :	100		V001=
	R OSE INTERI E NO.	NAL USE			POD NO.		WR-20 WELL I	ŒCORD &	LUG (Ve	rsion 06/30	1/2017)
-	CATION				100110.	WEY -				PAGE 2	2 OF 2
LO	ATION					WELL	TAG ID NO.			LAGE	

# 2021-11-16\_CP-1891\_WD-OSE\_Well Record and Log\_-forsign

Final Audit Report 2021-11-16

Created: 2021-11-16

By: Lucas Middleton (lucas@atkinseng.com)

Status: Signed

Transaction ID: CBJCHBCAABAAP73aRj8R9g053z9Zi4uJLpgAhfBF15Nk

# "2021-11-16\_CP-1891\_WD-OSE\_Well Record and Log\_-forsign" History

- Document created by Lucas Middleton (lucas@atkinseng.com) 2021-11-16 7:01:05 PM GMT- IP address: 69.21.248.123
- Document emailed to Jack Atkins (jack@atkinseng.com) for signature 2021-11-16 7:01:44 PM GMT
- Email viewed by Jack Atkins (jack@atkinseng.com) 2021-11-16 10:42:21 PM GMT- IP address: 64.90,153,232
- Document e-signed by Jack Atkins (jack@atkinseng.com)

  Signature Date: 2021-11-16 10:43:29 PM GMT Time Source: server- IP address: 64.90.153.232
- Agreement completed. 2021-11-16 - 10:43:29 PM GMT

DUE DIT NOW 28 2021 PM21A B





## PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	NERAL / WELL OWNERSHIP:		
State E	ngineer Well Number: CP-1891 POD-1		
Well ov	wner: XTO Energy (Adrian Baker)	Phone No.:	
Mailing	g address: 6401 Holiday Hill Dr.	 Texas	79707
City:	State:	16005	Zip code:
TT 33/E	THE DESIGNATION.		
1)	ELL PLUGGING INFORMATION:  Name of well drilling company that plugged well:	e D. Atkins ( Atkins Engineering	Associates Inc.)
2)	New Mexico Well Driller License No.: 1249	Expir	
3)	Well plugging activities were supervised by the following Shane Eldridge, Cameron Pruitt, Carmelo Travino	g well driller(s)/rig supervisor(s	3):
4)	Date well plugging began: 11/01/2021	Date well plugging concluded:	11/01/2021
5)	GPS Well Location: Latitude: 32 deg  Longitude: 103 deg		sec sec, WGS 84
6)	Depth of well confirmed at initiation of plugging as: by the following manner: water level probe	56 ft below ground level	(bgl),
7)	Static water level measured at initiation of plugging:	33.20 ft bgl	
8)	Date well plugging plan of operations was approved by the	he State Engineer:10-6-2021	
9)	Were all plugging activities consistent with an approved differences between the approved plugging plan and the		_ If not, please describe dditional pages as needed):
		eth vingos	N. Para and Market and
		<u> 1882</u>	DN NOU 29 2021 •#2:18

Version: September 8, 2009

Page 1 of 2

Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

#### For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of <u>Material Placed</u> (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement  Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	0-53' Type I/II Neat Cement	72 gallons	84 gallons	Augers	
-	, , , , , , , , , , , , , , , , , , , ,				
\ <u>-</u>					
-					
:= :=					
		Ī			
:=					
=					
_					
Ē					
_					
-					
_					
-					
_				CSID	T NUU 29 2021 PM2:18
_			BY AND OBTAIN 805 = gallons	U J	
		cubic feet x 7.4 cubic yards x 201.9	805 = gallons 17 = gallons		

#### III. SIGNATURE:

I, Jackie D. Atkins	, say th	nat I	am	familiar	with	the	rules	of	the	Office	of the	State
Engineer pertaining to the plugging of wells and that are true to the best of my knowledge and belief.	each and	allo	f the	e stateme	nts in	this	Plugg	ging	Rec	ord an	d attach	ments

Signature of Well Driller Date

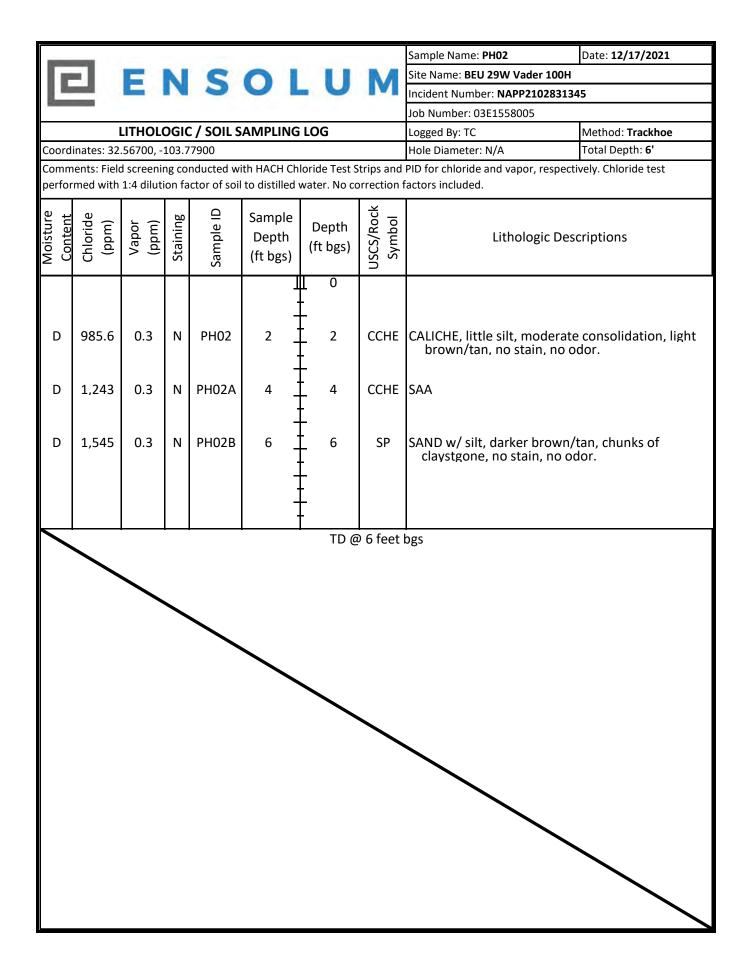
Version: September 8, 2009

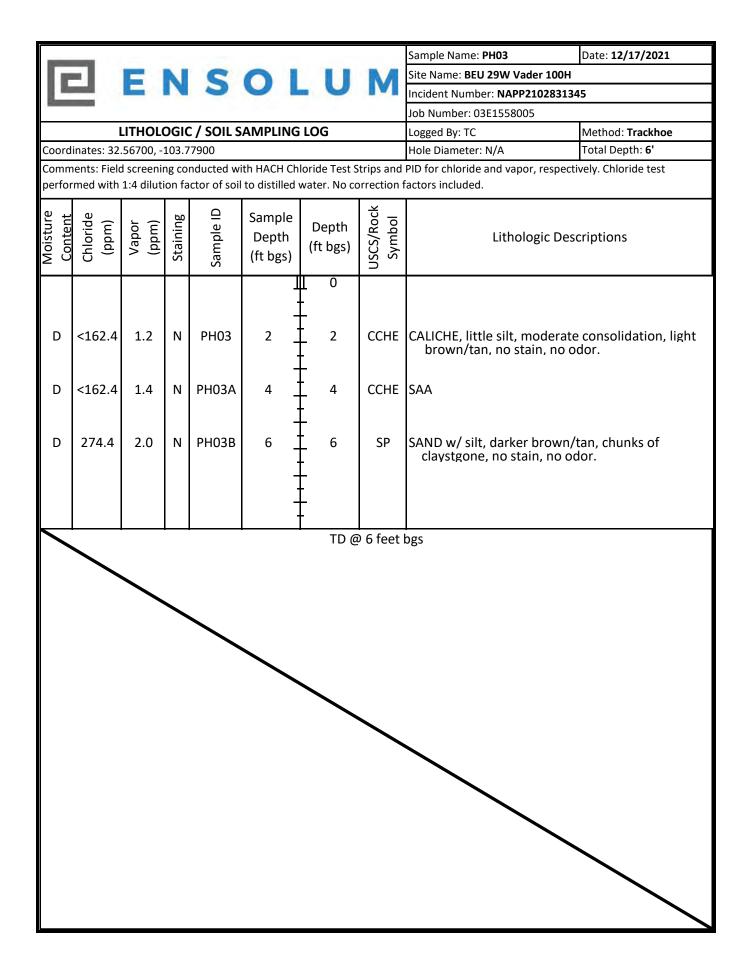


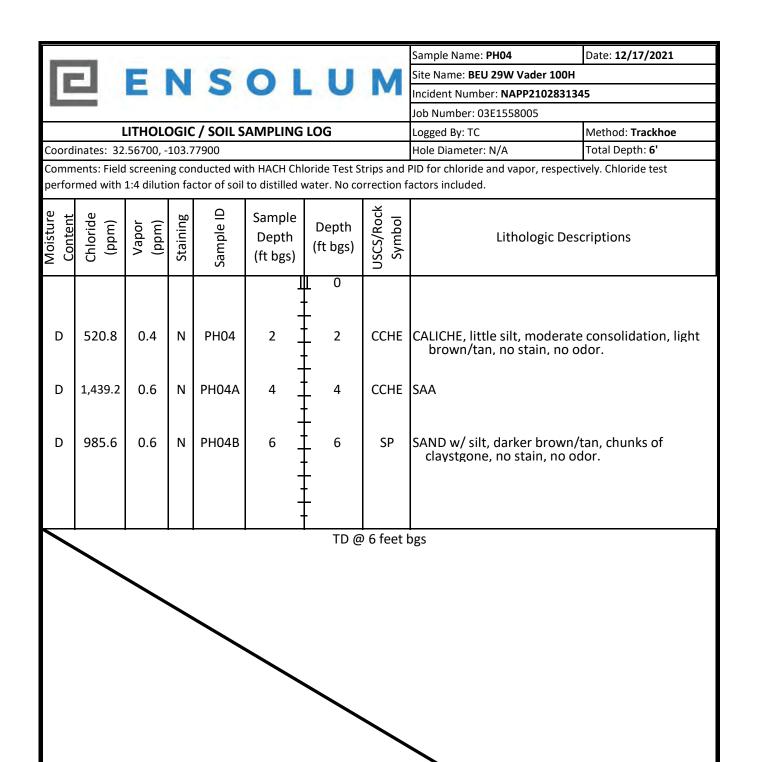
**APPENDIX B** 

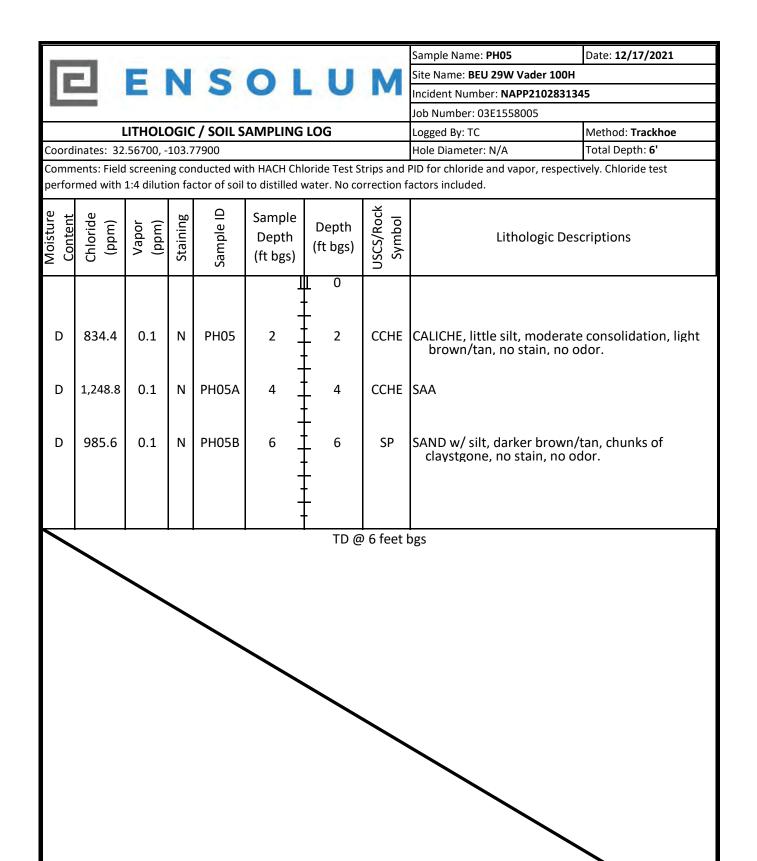
Lithologic / Soil Sampling Logs

								Sample Name: PH01	Date: <b>12/13/2021</b>		
	7	_			0 1			Site Name: BEU 29W Vader 100H			
H E			V	5	O L	. U	M	Incident Number: NAPP2102831			
-								Job Number: 03E1558005	343		
		THOLO	GIC	/ SOIL SA	MPLING	IOG		Logged By: TC	Method: <b>Trackhoe</b>		
Coord	inates: 32.5							Hole Diameter: 3x6	Total Depth: 16'		
					n HACH Chlo	ride Test St	rips and P	ID for chloride and vapor, respect	·		
		_						ctors included.	,		
Moisture Content Chloride (ppm) Vapor (ppm) Staining Sample ID Sample ID USCS/Rock Symbol							Lithologic Descriptions				
					1	0					
					-	-					
M/D	6,171.20	0.2	N	PH01	2	- - 2 -	SC/SP/CL	CALICHE Top w/large grave no staining, no odor.	el, sand, tan to brown,		
М	1,299.20	0.5	N		-	4	SC/SP/CL	SAA, moist.			
М	1,108.80	0.0	N	PH01A	6 _	- - - 6	SC/SP/CL	SAA, large gravel w/ sand, ı	reddish brown, moist.		
М	1,204	0.0	N		- - - -	- - - 8	SC/SP/CL	SAA			
М	1,108.80	0.0	N	PH01B	10	10	SP/SC	SAND w/ large gravel, redd stain, no odor.	ish brown, moist, no		
M/D	856.8	0.0	N		- - -	12	SP/SC	SAA, medium sized gravel.			
M/D	784	0.0	N	PH01C	14 _	14 14	SP/SC	SAA			
M/D	515.2	0.0	N	PH01D	16	_ _ 16	SP/SC	SAA			
						TD @	16 feet l	ogs			
						_	•				
									<u> </u>		









								T .	1		
		_						Sample Name: PH06	Date: 03/16/2022		
		=	N	S	OI		M	Site Name: BEU 29W Vader 100H			
_	-								345		
			_					Job Number: 03E1558005			
					SAMPLING	LOG		Logged By: AC	Method: Backhoe		
		2.56700,						Hole Diameter: NA	Total Depth: 7'		
			_					d PID for chloride and vapor, respe factors included.	ctively. Chloride test		
Moisture Content	Chloride Chloride Chloride Samble Debth (tt pas) Symbol Cymbol Cy						scriptions				
					1	0					
D	255.2	0.6	N	РН06	1 -	1	ССНЕ	CALICHE, light brown/tan, li consolidation, no stain, r	ittle silt, moderate no odor.		
D	397.6	0.1	N		- -	2	CCHE	SAA			
D	683.2	0.2	N		- -	- - - -	SP	SAND, carker brown, some silt, no stain, no odo			
D	448	0.2	N	PH06A	4 _	4	ССНЕ	CALICHE, light brown/tan, s consolidation, no stain, r	ome silt, moderate no odor.		
D	448	0.2	N		- - -	- _ 5 -	ССНЕ	SAA			
D	504	0.1	N	PH06B	6	- _ 6 -	ССНЕ	SAA			
					- - -	- - -					
${m  extstyle m  extstyle m$						TD 6	9 6 feet	l has	1		
		\	_			יט פ	~ 0 1661	<b>ა</b> გა			
							<u> </u>	_			

								I			
		_					-	Sample Name: PH07	Date: 03/16/2022		
ΙC	2	E	N	S	OI	U	M	Site Name: BEU 29W Vader 10			
	- 6										
		LITUO	001	C / CO:: 1	`^^			Job Number: 03E1558005			
					SAMPLING	LOG		Logged By: AC	Method: Backhoe		
	inates: 3						<u> </u>	Hole Diameter: NA	Total Depth: 7'		
			-					d PID for chloride and vapor, re factors included.	spectively. Chloride test		
Moisture Content Chloride (ppm) Vapor (ppm) Staining Sample ID Staining Obeth (tt pds) USCS/Rock Symbol						Lithologic Descriptions					
					1	0					
D	168	0.1	N	PH07	1 -	- _ 1 -	ССНЕ	CALICHE, light brown/tar consolidation, no stair	n, little silt, moderate n, no odor.		
D	235.2	0.1	N		<u>-</u> -	2	CCHE	SAA			
D	235.2	0.1	N	PH07A	3 -	3	SP	SAA			
D	352.8	0.0	N		- -	4	ССНЕ	SAA			
D	268.8	0.0	N		- - -	- - - 5	ССНЕ	SAA			
D	448	0.0	N	РН07В	6 _	- - -	CCHE	SAA			
D	560	0.0	N		- - -	7	ССНЕ	SAA			
						TD 6	7 feet	has			
						יט פ	y / reet	ngs			
				_							
			•	<b>\</b>							
							\				

								ı	<u> </u>	
4								Sample Name: PH08	Date: 03/17/2022	
Iг		=	N	S	OI	U	M	Site Name: BEU 29W Vader 100		
_	9								31345	
			_					Job Number: 03E1558005		
					SAMPLING	LOG		Logged By: AC	Method: Backhoe	
	inates: 3							Hole Diameter: NA	Total Depth: 7'	
			_					d PID for chloride and vapor, res factors included.	spectively. Chloride test	
Moisture Content Chloride (ppm) Vapor (ppm) Sample ID Sample ID (tt pdd) (tt pdd) (tt pdd) USCS/Rock Symbol						Lithologic C	Descriptions			
					1	<u> </u>				
D	179.2	0.0	N	PH08	1 -	1	ССНЕ	CALICHE, light brown/tan consolidation, no stain	, little silt, moderate , no odor.	
D	<179.2	0.0	N		- - -	2	CCHE	SAA		
D	<179.2	0.0	N	PH08A	3 -	- _ 3 -	SP	SAA		
D	<179.2	0.0	N		- - -	- - 4	ССНЕ	SAA		
D	<179.2	0.0	N		- - -	- - - 5	ССНЕ	SAA		
D	<179.2	0.0	N	PH08B	6 _	- - - 6	ССНЕ	SAA		
D	<179.2	0.0	N	PH08C	7 - -	- - - -	ССНЕ	SAA		
$\bigvee$						TD 6	7 feet	l høs		
	<u></u>	\				יט פ	~ / ICCL	<b>~</b> 63		
				\\						
					<b>\</b>					
						<b>\</b>				

口	E	N					Sample Name: PH09	Date: 03/17/2022	
므	E	N				-			
			5	OI		M	Site Name: BEU 29W Vader 100		
								1345	
							Job Number: 03E1558005		
				AMPLING	LOG		Logged By: AC	Method: Backhoe	
Coordinates:						<u> </u>	Hole Diameter: NA	Total Depth: 7'	
		_					d PID for chloride and vapor, resp factors included.	bectively. Chloride test	
Moisture Content Chloride (ppm) Vapor (ppm) Sample ID Sample ID USCS/Rock Symbol						Lithologic Descriptions			
				_	0				
D 268.8	0.1	N	PH09	1	_ _ 1 _	ССНЕ	CALICHE, light brown/tan, consolidation, no stain,	little silt, moderate no odor.	
D 179.2	0.1	N		-	_ _ 2 _	ССНЕ	SAA		
D 201.6	0.2	N	РН09А	3 -	3	SP	SAA		
D 196.2	0.1	N		-	- - - -	ССНЕ	SAA		
D <179.7	0.0	N			- - - 5	ССНЕ	SAA		
D 235.2	0.0	N	РН09В	6 <u>-</u>	- _ 6 -	ССНЕ	SAA		
D <179.2	0.0	N	РН09С	7 <u>-</u> -	- - - 7	ССНЕ	SAA		
	1			•	TD @	7 feet	høs	1	
`					יםי	, , iccl	~5		



APPENDIX C

Photographic Log



#### Photographic Log

XTO Energy, Inc.
BEU 29W Vader 100H
Incident Number NAPP2102831345





Photograph 1

Date: December 17, 2021

Description: Photo of PH02 taken during delineation.

Photograph 2

Date: December 17, 2021

Description: Photo of PH05 taken during delineation.



Photograph 3

Date: March 16, 2022

Description: Photo of PH07 taken during delineation.



Photograph 4

Date: March 17, 2022

Description: Photo of PH08 taken during delineation.



# APPENDIX D

Laboratory Analytical Reports & Chain-of-Custody

Documentation



# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1739-1

Laboratory Sample Delivery Group: TE012921044

Client Project/Site: BEU 29W VADER 100H

Revision: 1

For:

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

Attn: Kalei Jennings

RAMER

Authorized for release by: 3/25/2022 2:02:33 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

.....LINKS .....

**Review your project** results through

**Have a Question?** Ask-Expert

Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 7/6/2022 2:44:10 PM

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.

Laboratory Job ID: 890-1739-1

Project/Site: BEU 29W VADER 100H

SDG: TE012921044

**Table of Contents** 

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	14
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
Chain of Custody	20
Receint Checklists	21

# 4

$\mathbf{a}$
3

6
r

# **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-1739-1 Project/Site: BEU 29W VADER 100H

SDG: TE012921044

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

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

GC Semi VOA

**Qualifier Description** Qualifier

U Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier **Qualifier Description** 

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

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery **CFL** Contains Free Liquid **CFU** Colony Forming Unit **CNF** Contains No Free Liquid

Duplicate Error Ratio (normalized absolute difference) **DER** 

Dil Fac **Dilution Factor** 

Detection Limit (DoD/DOE) DL

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) Minimum Detectable Concentration (Radiochemistry) MDC

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

**Practical Quantitation Limit PQL** 

**PRES** Presumptive QC **Quality Control** 

**RER** Relative Error Ratio (Radiochemistry)

RI 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.

Job ID: 890-1739-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

Job ID: 890-1739-1

**Laboratory: Eurofins Carlsbad** 

**Narrative** 

Job Narrative 890-1739-1

#### REVISION

The report being provided is a revision of the original report sent on 12/28/2021. The report (revision 1) is being revised due to Per client email requesting sample ID change.

Report revision history

#### Receipt

The samples were received on 12/20/2021 3:24 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.8°C

#### **GC VOA**

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH05A (890-1739-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

#### GC Semi VOA

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

#### HPLC/IC

Method 300 ORGFM 28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-15364 and analytical batch 880-15438 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. The associated samples are: PH05B (890-1739-3), (880-9605-A-4-A), (880-9605-A-4-D MS) and (880-9605-A-4-E MSD).

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

**Eurofins Carlsbad** 3/25/2022 (Rev. 1)

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1739-1

Project/Site: BEU 29W VADER 100H SDG: TE012921044

**Client Sample ID: PH05** Lab Sample ID: 890-1739-1 Date Collected: 12/17/21 12:22 Matrix: Solid Date Received: 12/20/21 15:24

Sample Depth: 2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/22/21 10:08	12/22/21 13:44	1
Toluene	< 0.00202	U	0.00202	mg/Kg		12/22/21 10:08	12/22/21 13:44	1
Ethylbenzene	< 0.00202	U	0.00202	mg/Kg		12/22/21 10:08	12/22/21 13:44	1
m-Xylene & p-Xylene	< 0.00403	U	0.00403	mg/Kg		12/22/21 10:08	12/22/21 13:44	1
o-Xylene	< 0.00202	U	0.00202	mg/Kg		12/22/21 10:08	12/22/21 13:44	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		12/22/21 10:08	12/22/21 13:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130			12/22/21 10:08	12/22/21 13:44	1
1,4-Difluorobenzene (Surr)	103		70 - 130			12/22/21 10:08	12/22/21 13:44	1
Method: Total BTEX - Total B	TEX Calcula	tion						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00403	U	0.00403	mg/Kg			12/23/21 19:53	1
: Method: 8015 NM - Diesel Rai	nge Organic	s (DRO) (G	SC)					
Method: 8015 NM - Diesel Rai				1114	_	B	A	D'I F
Method: 8015 NM - Diesel Rai Analyte Total TPH		Qualifier	RL 50.0	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 12/28/21 17:22	
Analyte Total TPH	<50.0	Qualifier U	50.0 FL	Unit mg/Kg	<u>D</u>	Prepared		
Analyte Total TPH  Method: 8015B NM - Diesel R	Result <50.0	Qualifier U	RL 50.0		<u>D</u>	· ·	12/28/21 17:22	1
Analyte Total TPH  Method: 8015B NM - Diesel R Analyte	Result <50.0 ange Organ Result	Qualifier U ics (DRO) Qualifier	RL 50.0 (GC)	mg/Kg	<u>D</u>	Prepared	12/28/21 17:22  Analyzed	1
Analyte	Result <50.0	Qualifier U ics (DRO) Qualifier	RL 50.0	mg/Kg	_ =	· ·	12/28/21 17:22	1 Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel R Analyte Gasoline Range Organics	Result <50.0 ange Organ Result	Qualifier U ics (DRO) Qualifier U	RL 50.0 (GC)	mg/Kg	_ =	Prepared 12/22/21 09:41	12/28/21 17:22  Analyzed	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel R Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result  <50.0 ange Organ Result  <50.0	Qualifier U  ics (DRO) Qualifier U	(GC) RL 50.0	mg/Kg  Unit mg/Kg	_ =	Prepared 12/22/21 09:41 12/22/21 09:41	12/28/21 17:22  Analyzed 12/22/21 20:12	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel R Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <50.0	Qualifier U  ics (DRO) Qualifier U  U	RL 50.0 (GC) RL 50.0 50.0	mg/Kg  Unit mg/Kg  mg/Kg	_ =	Prepared 12/22/21 09:41 12/22/21 09:41	12/28/21 17:22  Analyzed 12/22/21 20:12 12/22/21 20:12	1 Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel R Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <50.0	Qualifier U  ics (DRO) Qualifier U  U	RL 50.0  (GC) RL 50.0  50.0  50.0	mg/Kg  Unit mg/Kg  mg/Kg	_ =	Prepared 12/22/21 09:41 12/22/21 09:41 12/22/21 09:41	Analyzed 12/22/21 20:12 12/22/21 20:12 12/22/21 20:12 12/22/21 20:12 Analyzed	Dil Face 1 1 1 Dil Face
Analyte Total TPH  Method: 8015B NM - Diesel R Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result   <50.0	Qualifier U  ics (DRO) Qualifier U  U	RL 50.0  (GC) RL 50.0  50.0  50.0  Limits	mg/Kg  Unit mg/Kg  mg/Kg	_ =	Prepared 12/22/21 09:41 12/22/21 09:41 12/22/21 09:41  Prepared 12/22/21 09:41	12/28/21 17:22  Analyzed 12/22/21 20:12 12/22/21 20:12 12/22/21 20:12 Analyzed	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel R Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <50.0	Qualifier U  CS (DRO) Qualifier U  U  U  Qualifier	RL 50.0  (GC)  RL 50.0  50.0  50.0  Limits  70 - 130  70 - 130	mg/Kg  Unit mg/Kg  mg/Kg	_ =	Prepared 12/22/21 09:41 12/22/21 09:41 12/22/21 09:41  Prepared 12/22/21 09:41	Analyzed 12/22/21 20:12 12/22/21 20:12 12/22/21 20:12 12/22/21 20:12 Analyzed 12/22/21 20:12	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel R Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U  CS (DRO) Qualifier U  U  U  Qualifier	RL 50.0  (GC)  RL 50.0  50.0  50.0  Limits  70 - 130  70 - 130	mg/Kg  Unit mg/Kg  mg/Kg	_ =	Prepared 12/22/21 09:41 12/22/21 09:41 12/22/21 09:41  Prepared 12/22/21 09:41	Analyzed 12/22/21 20:12 12/22/21 20:12 12/22/21 20:12 12/22/21 20:12 Analyzed 12/22/21 20:12	Dil Fac

**Client Sample ID: PH05A** Lab Sample ID: 890-1739-2 Date Collected: 12/17/21 12:27 Matrix: Solid

Date Received: 12/20/21 15:24

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 14:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 14:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 14:04	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 14:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 14:04	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 14:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	152	S1+	70 - 130			12/22/21 10:08	12/22/21 14:04	1

**Matrix: Solid** 

Lab Sample ID: 890-1739-2

# **Client Sample Results**

Client: WSP USA Inc.

Job ID: 890-1739-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

Client Sample ID: PH05A

Date Collected: 12/17/21 12:27 Date Received: 12/20/21 15:24

Sample Depth: 4

Surrogate	%Recovery Qualifier	Limits	Prepared A	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	128	70 - 130	12/22/21 10:08 12/	22/21 14:04	1

#### **Method: Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00399	U	0.00399	mg/Kg		_	12/23/21 19:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/28/21 17:22	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		12/22/21 09:41	12/22/21 20:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/21 09:41	12/22/21 20:34	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/21 09:41	12/22/21 20:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery (	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	12/22/21 09:41	12/22/21 20:34	1
o-Terphenyl	96		70 - 130	12/22/21 09:41	12/22/21 20:34	1

# Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte		Qualifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1470	25.0	mg/Kg			12/22/21 18:12	5

**Client Sample ID: PH05B** Lab Sample ID: 890-1739-3 **Matrix: Solid** 

Date Collected: 12/17/21 12:36 Date Received: 12/20/21 15:24

Sample Depth: 6

Mothod: 9021B	Volatile	Organic	Compounds	(CC)

Method. 002 ID - Volatile O	rgariic Compo	unus (GG)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 14:25	1
Toluene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 14:25	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 14:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/22/21 10:08	12/22/21 14:25	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 14:25	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/22/21 10:08	12/22/21 14:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			12/22/21 10:08	12/22/21 14:25	1
1 4-Diffuorobenzene (Surr)	101		70 130			12/22/21 10:08	12/22/21 14:25	1

lothod:	Total	DTEV	Total	DTEV	Calculation	n

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00398	U	0.00398	mg/Kg			12/23/21 19:53	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			12/28/21 17:22	1

# **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1739-1

 Project/Site: BEU 29W VADER 100H
 SDG: TE012921044

Client Sample ID: PH05B

Lab Sample ID: 890-1739-3

Date Collected: 12/17/21 12:36

Matrix: Solid

Date Received: 12/20/21 15:24

Sample Depth: 6

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/21 09:41	12/22/21 20:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/21 09:41	12/22/21 20:56	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/21 09:41	12/22/21 20:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130			12/22/21 09:41	12/22/21 20:56	1
o-Terphenyl	95		70 - 130			12/22/21 09:41	12/22/21 20:56	1
-	hromotogra	nhy - Soli	ıble					
Method: 300.0 - Anions, Ion C	momatogra	pily colo						
Method: 300.0 - Anions, Ion C Analyte	_	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

# **Surrogate Summary**

Client: WSP USA Inc.

Job ID: 890-1739-1

Project/Site: BEU 29W VADER 100H

SDG: TE012921044

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

			Perce	nt Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1739-1	PH05	123	103	
890-1739-1 MS	PH05	126	80	
890-1739-1 MSD	PH05	117	80	
890-1739-2	PH05A	152 S1+	128	
890-1739-3	PH05B	116	101	
LCS 880-15329/1-A	Lab Control Sample	107	107	
LCSD 880-15329/2-A	Lab Control Sample Dup	106	105	
MB 880-15329/5-A	Method Blank	104	100	

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

OTPH = o-Terphenyl

OTPH = o-Terphenyl

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

Matrix: Solid Prep Type: Total/NA

			Percent Sur	rogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1739-1	PH05	103	99	
890-1739-2	PH05A	99	96	
890-1739-3	PH05B	97	95	
890-1743-A-1-D MS	Matrix Spike	92	87	
890-1743-A-1-E MSD	Matrix Spike Duplicate	103	101	
Surrogate Legend				

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

Matrix: Solid Prep Type: Total/NA

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

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1739-1 SDG: TE012921044

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

Lab Sample ID: MB 880-15329/5-A

Lab Sample ID: LCS 880-15329/1-A

**Matrix: Solid** 

**Analysis Batch: 15330** 

**Client Sample ID: Method Blank** 

**Prep Type: Total/NA** Prep Batch: 15329

	IVIB IVIE	В						
Analyte	Result Qu	ualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200 U		0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Toluene	<0.00200 U		0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Ethylbenzene	<0.00200 U		0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
m-Xylene & p-Xylene	<0.00400 U		0.00400	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
o-Xylene	<0.00200 U		0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Xylenes, Total	<0.00400 U		0.00400	mg/Kg		12/22/21 10:08	12/22/21 13:22	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	12/22/21 10:08	12/22/21 13:22	1
1,4-Difluorobenzene (Surr)	100		70 - 130	12/22/21 10:08	12/22/21 13:22	1

**Client Sample ID: Lab Control Sample** 

Matrix: Solid **Prep Type: Total/NA Analysis Batch: 15330** Prep Batch: 15329 Snika LCS LCS

	<b>Зріке</b>	LUS	LUS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09632		mg/Kg		96	70 - 130	
Toluene	0.100	0.08900		mg/Kg		89	70 - 130	
Ethylbenzene	0.100	0.08828		mg/Kg		88	70 - 130	
m-Xylene & p-Xylene	0.200	0.1813		mg/Kg		91	70 - 130	
o-Xylene	0.100	0.08868		mg/Kg		89	70 - 130	

LCS LCS

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

Lab Sample ID: LCSD 880-15329/2-A **Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

**Analysis Batch: 15330** 

Prep Type: Total/NA Prep Batch: 15329

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09431		mg/Kg		94	70 - 130	2	35
Toluene	0.100	0.08655		mg/Kg		87	70 - 130	3	35
Ethylbenzene	0.100	0.08460		mg/Kg		85	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1728		mg/Kg		86	70 - 130	5	35
o-Xylene	0.100	0.08727		mg/Kg		87	70 - 130	2	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 890-1739-1 MS

**Matrix: Solid** 

Analysis Batch: 15330

**Client Sample ID: PH05** Prep Type: Total/NA Prep Batch: 15329

								Lieh F	alcii. 1334	23
Sample	Sample	Spike	MS	MS				%Rec.		
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
<0.00202	U	0.0996	0.07379		mg/Kg		73	70 - 130		
<0.00202	U	0.0996	0.09570		mg/Kg		96	70 - 130		
	Result <0.00202	Sample         Sample           Result         Qualifier           <0.00202	Result          Qualifier          Added            <0.00202	Result         Qualifier         Added         Result           <0.00202	Result          Qualifier          Added          Result          Qualifier            <0.00202	ResultQualifierAddedResultQualifierUnit<0.00202	Result <0.00202Qualifier UAdded 0.0996Result 0.07379Qualifier mg/KgUnit mg/KgD	Result          Qualifier          Added          Result          Qualifier          Unit mg/Kg         D         %Rec            <0.00202	Sample Result   Qualifier            Spike Added            MS MS            WRec.              <0.00202   U	Result   Qualifier            Added            Result   Qualifier            Unit            D   %Rec            Limits              <0.00202   U

# **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1739-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

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

Lab Sample ID: 890-1739-1 MS

**Matrix: Solid** 

**Analysis Batch: 15330** 

Client Samp	ple ID: PH05
Prep Ty	pe: Total/NA

Prep Batch: 15329

MS MS Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier Unit D %Rec Limits Ethylbenzene <0.00202 U 0.0996 0.1047 mg/Kg 105 70 - 130 m-Xylene & p-Xylene <0.00403 U 0.199 0.1996 mg/Kg 100 70 - 130 o-Xylene <0.00202 U 0.0996 0.09489 mg/Kg 95 70 - 130

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	126		70 - 130
1,4-Difluorobenzene (Surr)	80		70 - 130

**Client Sample ID: PH05** 

Prep Type: Total/NA

Prep Batch: 15329

**Analysis Batch: 15330** 

**Matrix: Solid** 

Lab Sample ID: 890-1739-1 MSD

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00202	U	0.0992	0.07689		mg/Kg	_	77	70 - 130	4	35
Toluene	<0.00202	U	0.0992	0.07955		mg/Kg		80	70 - 130	18	35
Ethylbenzene	<0.00202	U	0.0992	0.07982		mg/Kg		80	70 - 130	27	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1706		mg/Kg		86	70 - 130	16	35
o-Xylene	<0.00202	U	0.0992	0.08304		mg/Kg		83	70 - 130	13	35

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1,4-Difluorobenzene (Surr)	80		70 - 130

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

Lab Sample ID: MB 880-15317/1-A

**Matrix: Solid** 

**Analysis Batch: 15328** 

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

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

MB MB

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

Lab Sample ID: LCS 880-15317/2-A

**Matrix: Solid** 

**Analysis Batch: 15328** 

Client S	Sample	ID:	Lab	Control	Sampl	е
			Prer	Type	Total/N	Δ

Prep Batch: 15317

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

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1739-1 SDG: TE012921044

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

Lab Sample ID: LCS 880-15317/2-A

Lab Sample ID: LCSD 880-15317/3-A

Lab Sample ID: 890-1743-A-1-D MS

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 15328** 

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

Prep Batch: 15317

LCS LCS

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

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

**Analysis Batch: 15328** 

Prep Batch: 15317

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

C10-C28)

LCSD LCSD

Surrogate	%Recovery Qualifie	r Limits
1-Chlorooctane	119	70 - 130
o-Terphenyl	114	70 - 130

**Client Sample ID: Matrix Spike** 

70 - 130

Prep Type: Total/NA

Prep Batch: 15317

**Analysis Batch: 15328** Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Limits Analyte Unit D %Rec <49.9 U Gasoline Range Organics 996 1031 mg/Kg 101 70 - 130

(GRO)-C6-C10 996 Diesel Range Organics (Over 126 1014 mg/Kg 89

C10-C28)

**Matrix: Solid** 

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

**Client Sample ID: Matrix Spike Duplicate** Lab Sample ID: 890-1743-A-1-E MSD

**Matrix: Solid Prep Type: Total/NA Analysis Batch: 15328** Prep Batch: 15317 Sample Sample Snika MCD MCD 0/ Daa

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

C10-C28)

MSD MSD

Surrogate	%Recovery Qual	ifier Limits
1-Chlorooctane	103	70 - 130
o-Terphenyl	101	70 - 130

Client: WSP USA Inc. Project/Site: BEU 29W VADER 100H

Job ID: 890-1739-1 SDG: TE012921044

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15277/1-A

Client Sample ID: Method Blank

**Matrix: Solid** 

**Prep Type: Soluble** 

**Analysis Batch: 15398** 

MB MB

Analyte	Result Qualifie	er RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00 U	5.00	mg/Kg			12/22/21 08:00	1

**Client Sample ID: Lab Control Sample** Lab Sample ID: LCS 880-15277/2-A **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15398** 

Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits Analyte 250 90 - 110 Chloride 257.3 mg/Kg 103

Lab Sample ID: LCSD 880-15277/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15398** 

Spike LCSD LCSD %Rec. **RPD** Added Result Qualifier Limits **RPD** Analyte Unit %Rec Limit Chloride 250 256.0 102 90 - 110 mg/Kg

Lab Sample ID: 890-1738-A-11-D MS **Client Sample ID: Matrix Spike Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15398** 

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 288.6 28.8 250 mg/Kg 104 90 - 110

Lab Sample ID: 890-1738-A-11-E MSD **Client Sample ID: Matrix Spike Duplicate Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 15398** 

MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Limit Chloride 250 300.8 109 28.8 mg/Kg 90 - 110

Lab Sample ID: MB 880-15364/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 15438** 

MB MB

Result Qualifier Analyte RL Unit Dil Fac Prepared Analyzed 5.00 12/23/21 03:02 Chloride <5.00 U mg/Kg

Lab Sample ID: LCS 880-15364/2-A Client Sample ID: Lab Control Sample **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 15438** 

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

Lab Sample ID: LCSD 880-15364/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 15438** 

Spike LCSD LCSD %Rec. **RPD** Added **RPD** Analyte Result Qualifier Unit %Rec Limits Limit Chloride 250 260.5 mg/Kg 104 90 - 110 20

**Eurofins Carlsbad** 

Released to Imaging: 7/6/2022 2:44:10 PM

# **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1739-1 Project/Site: BEU 29W VADER 100H

SDG: TE012921044

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-9605-A-4-D MS **Client Sample ID: Matrix Spike** 

**Matrix: Solid Prep Type: Soluble Analysis Batch: 15438** 

Sample Sample Spike MS MS %Rec. Result Qualifier Analyte Result Qualifier Added Unit D %Rec Limits Chloride <5.02 U F1 251 293.9 F1 mg/Kg 115 90 - 110

Lab Sample ID: 880-9605-A-4-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15438** 

Sample Sample Spike MSD MSD %Rec. **RPD** 

**Analyte** Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Chloride <5.02 U F1 251 293.0 F1 90 - 110 0 mg/Kg 115

# **QC Association Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1739-1 SDG: TE012921044

# **GC VOA**

# Prep Batch: 15329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1739-1	PH05	Total/NA	Solid	5035	
890-1739-2	PH05A	Total/NA	Solid	5035	
890-1739-3	PH05B	Total/NA	Solid	5035	
MB 880-15329/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-15329/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-15329/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1739-1 MS	PH05	Total/NA	Solid	5035	
890-1739-1 MSD	PH05	Total/NA	Solid	5035	

# **Analysis Batch: 15330**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1739-1	PH05	Total/NA	Solid	8021B	15329
890-1739-2	PH05A	Total/NA	Solid	8021B	15329
890-1739-3	PH05B	Total/NA	Solid	8021B	15329
MB 880-15329/5-A	Method Blank	Total/NA	Solid	8021B	15329
LCS 880-15329/1-A	Lab Control Sample	Total/NA	Solid	8021B	15329
LCSD 880-15329/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	15329
890-1739-1 MS	PH05	Total/NA	Solid	8021B	15329
890-1739-1 MSD	PH05	Total/NA	Solid	8021B	15329

# **Analysis Batch: 15505**

<b>Lab Sample ID</b> 890-1739-1	Client Sample ID PH05	Prep Type Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
890-1739-2	PH05A	Total/NA	Solid	Total BTEX	
890-1739-3	PH05B	Total/NA	Solid	Total BTEX	

# **GC Semi VOA**

# Prep Batch: 15317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1739-1	PH05	Total/NA	Solid	8015NM Prep	
890-1739-2	PH05A	Total/NA	Solid	8015NM Prep	
890-1739-3	PH05B	Total/NA	Solid	8015NM Prep	
MB 880-15317/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15317/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-15317/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1743-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1743-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

# **Analysis Batch: 15328**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1739-1	PH05	Total/NA	Solid	8015B NM	15317
890-1739-2	PH05A	Total/NA	Solid	8015B NM	15317
890-1739-3	PH05B	Total/NA	Solid	8015B NM	15317
MB 880-15317/1-A	Method Blank	Total/NA	Solid	8015B NM	15317
LCS 880-15317/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15317
LCSD 880-15317/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15317
890-1743-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	15317
890-1743-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	15317

# **QC Association Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1739-1 SDG: TE012921044

# GC Semi VOA

# **Analysis Batch: 15674**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1739-1	PH05	Total/NA	Solid	8015 NM	
890-1739-2	PH05A	Total/NA	Solid	8015 NM	
890-1739-3	PH05B	Total/NA	Solid	8015 NM	

#### **HPLC/IC**

#### Leach Batch: 15277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1739-1	PH05	Soluble	Solid	DI Leach	
890-1739-2	PH05A	Soluble	Solid	DI Leach	
MB 880-15277/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15277/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15277/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1738-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1738-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Leach Batch: 15364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1739-3	PH05B	Soluble	Solid	DI Leach	
MB 880-15364/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15364/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15364/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-9605-A-4-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-9605-A-4-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 15398**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1739-1	PH05	Soluble	Solid	300.0	15277
890-1739-2	PH05A	Soluble	Solid	300.0	15277
MB 880-15277/1-A	Method Blank	Soluble	Solid	300.0	15277
LCS 880-15277/2-A	Lab Control Sample	Soluble	Solid	300.0	15277
LCSD 880-15277/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15277
890-1738-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	15277
890-1738-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15277

# **Analysis Batch: 15438**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1739-3	PH05B	Soluble	Solid	300.0	15364
MB 880-15364/1-A	Method Blank	Soluble	Solid	300.0	15364
LCS 880-15364/2-A	Lab Control Sample	Soluble	Solid	300.0	15364
LCSD 880-15364/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15364
880-9605-A-4-D MS	Matrix Spike	Soluble	Solid	300.0	15364
880-9605-A-4-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15364

Project/Site: BEU 29W VADER 100H

Client: WSP USA Inc.

Date Collected: 12/17/21 12:22 Date Received: 12/20/21 15:24

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 13:44	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/23/21 19:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15317	12/22/21 09:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15328	12/22/21 20:12	AJ	XEN MID
Soluble	Leach	DI Leach			15277	12/21/21 15:10	CA	XEN MID
Soluble	Analysis	300.0		1	15398	12/22/21 15:15	SC	XEN MID

Client Sample ID: PH05A Lab Sample ID: 890-1739-2 Date Collected: 12/17/21 12:27

**Matrix: Solid** 

Date Received: 12/20/21 15:24

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 14:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/23/21 19:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15317	12/22/21 09:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15328	12/22/21 20:34	AJ	XEN MID
Soluble	Leach	DI Leach			15277	12/21/21 15:10	CA	XEN MID
Soluble	Analysis	300.0		5	15398	12/22/21 18:12	SC	XEN MID

Lab Sample ID: 890-1739-3 **Client Sample ID: PH05B** Date Collected: 12/17/21 12:36 **Matrix: Solid** 

Date Received: 12/20/21 15:24

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 14:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/23/21 19:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15317	12/22/21 09:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15328	12/22/21 20:56	AJ	XEN MID
Soluble	Leach	DI Leach			15364	12/22/21 10:49	CA	XEN MID
Soluble	Analysis	300.0		1	15438	12/23/21 10:30	SC	XEN MID

**Laboratory References:** 

Released to Imaging: 7/6/2022 2:44:10 PM

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

# **Accreditation/Certification Summary**

 Client: WSP USA Inc.
 Job ID: 890-1739-1

 Project/Site: BEU 29W VADER 100H
 SDG: TE012921044

# **Laboratory: Eurofins Midland**

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

Authority	Pro	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-21-22	06-30-22
The following analyte:	s are included in this repo	ort. but the laboratory is r	not certified by the governing authority.	This list may include analytes for wh
the agency does not o	offer certification.	,		
the agency does not of Analysis Method	offer certification.  Prep Method	Matrix	Analyte	
0 ,		•	, , ,	

4

5

6

9

10

12

13

12

# **Method Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1739-1

SDG: TE012921044

N M 1	
ory	

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

#### **Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

# **Sample Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1739-1

SDG: TE012921044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depti
890-1739-1	PH05	Solid	12/17/21 12:22	12/20/21 15:24	2
890-1739-2	PH05A	Solid	12/17/21 12:27	12/20/21 15:24	4
890-1739-3	PH05B	Solid	12/17/21 12:36	12/20/21 15:24	6

Address:

3300 North A Street

Address:

3104 E Green Street

State of Project:

Company Name:

WSP

Kalei Jennings

13

# Chain of Custody

Work Order No:

www.xenco.com

Work Order Comments

Superfund

Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000) 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 Company Name: : (if different) Adrian Baker XTO Energy Program: UST/PST PRP Brownfields RC

Revised Date 051418 Rev 2018.1							-					
				6								5
				4				~			1	3
			1	1500 c	يع	8	5	(W)	Toe o	5	no	1 (info
Date/Time	Received by: (Signature)	lature)	Relinquished by: (Signature)	<sub>Z</sub> D	Date/Time	Date		by: (Signature)	Received by:	re) /	y: (Signatur	Relinquished by: (Signature)
	ss are due to circumstances beyond the control se enforced unless previously negotiated.	e to circumstanc ed unless previo	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 Service. 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.	curred by the not analyzed.	penses in enco, but	osses or ex omitted to X	nsibility for any li	assume any respo	each project an	will be applied to	e liable only for harge of \$75.00	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 losse 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
	terms and conditions	sions standard t	s and subcontractors. It as	o its affiliate	to Yend	ent compa	ace order from c	tutos a valid purch	cample cane	rollinguichment of	don mont and	Notice: Signature of thi
1631 / 245.1 / 7470 / 7471 : Hg		Ni Se Ag	Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U	Be Cd Cr	Ba	A Sb As	6010: 8RCR	~		Circle Method(s) and Metal(s) to be analyzed	l(s) and Me	Circle Method
Sn U V Zn	Mo Ni K Se Ag SiO2 Na Sr TI Sn U V	u Fe Pb Mg Mn Mo Ni	Ca Cr Co C	Be B Cd	As Ba	Al Sb /	/ Texas 11	8RCRA 13PPM	84	200.8 / 6020:	- 1	Total 200.7 / 6010
		-								1		
				-				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
						-		1				
				\	1	1	2	1				
				12	7.61.	12						
		<del> </del>	\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-			-						
				1		+						
				×	×	×	6	12:36	12.17.21	S	7 B	BLOHD
				×	×	×	4	(2:27	12.17.21	S	7A	PHSTA
				×	×	×	2 1	12:22	12.17.21	S	4	PHAT
Sample Comments	Sar			Chloric	BTEX (	TPH (E	Depth	Time Sampled	Date Sampled	Matrix	ntification	Sample Identification
lab, if received by 4:30pm	lab	_		le (E	EPA		er o	Total Containers:	Total	S NO (N/A)	als: Yes	Sample Custody Seals
TAT starts the day recevied by the		Accountable disablements of the contract of		PA 3	0=8		5.2	Correction Factor:	Corre	s No NIA	ils: Yes	Cooler Custody Seals
	OQV	890-1739 Chain of Custody	890-1739 C		021)		nta	E80-M	JE ST	Yes No		Received Intact:
				))			iner	Thermometer ID	1	2/3 8	4.	Temperature (°C):
							(Yes )No	Wet Ice:	Yes No	Temp Blank:	EIPT	SAMPLE RECEIPT
API 30-025-46515	API 30-1					_	) <sup>(P)</sup>	Due Date		oreno	Gilbert Moreno	Sampler's Name:
FE DO 2017 04339 CAP CMP 01	AFE DO 24	_						Rush				P.O. Number:
1568221001	CC 156	_		-			<u> </u>	Routine		.044	TE012921044	Project Number:
Work Order Notes	Wc	UEST	ANALYSIS REQUEST				Turn Around	Turn /		BEU 29W Vader 100H	BEU 29W	Project Name:
Other:	AUari	Deliverab	Adrian.Baker@exxonmobil.com	ian.Baker(		@wsp.co	Gilbert.Moreno@wsp.com,	Email Gi		2503	817-683-2503	Phone
CAT Trevelly	Level III +SI/USI	Keponing		88220	Carlsbad, NM 88220	Carlst	City, State ZIP:	Cit		TX 79705	Midland, TX 79705	City, State ZIP:
	Banadina:   Diagon   Detrinet   De					1				0.000		

으

# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-1739-1
SDG Number: TE012921044

Login Number: 1739 List Source: Eurofins Carlsbad

List Number: 1 Creator: Clifton, Cloe

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	

Euronnis Carisbau

Released to Imaging: 7/6/2022 2:44:10 PM

6

7

5

7

9

11

13

14

3/25/2022 (Rev. 1)

# **Login Sample Receipt Checklist**

Client: WSP USA Inc. Job Number: 890-1739-1 SDG Number: TE012921044

Login Number: 1739 **List Source: Eurofins Midland** List Creation: 12/21/21 02:08 PM List Number: 2

Creator: Rodriguez, Leticia

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

<6mm (1/4").



# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1740-1

Laboratory Sample Delivery Group: TE012921044

Client Project/Site: BEU 29W VADER 100H

Revision: 1

For:

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

Attn: Kalei Jennings

KRAMER

Authorized for release by: 3/25/2022 2:00:12 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

.....LINKS

Review your project results through

Have a Question?



Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 7/6/2022 2:44:10 PM

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.

1

2

3

4

5

7

8

10

1 1

13

Client: WSP USA Inc.

Laboratory Job ID: 890-1740-1

Project/Site: BEU 29W VADER 100H

SDG: TE012921044

**Table of Contents** 

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
	4
Client Sample Results	5
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	14
Lab Chronicle	16
Certification Summary	17
Method Summary	18
Sample Summary	19
	20
Receipt Checklists	21

2

3

4

6

8

10

11

13

14

# **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-1740-1 Project/Site: BEU 29W VADER 100H

SDG: TE012921044

#### **Qualifiers**

#### **GC VOA**

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

#### **GC Semi VOA**

Qualifier	Qualifier Description

LCS/LCSD RPD exceeds control limits. \*1

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

#### **HPLC/IC**

Qualifier **Qualifier Description** 

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

# **Glossary**

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery **CFL** Contains Free Liquid **CFU** Colony Forming Unit **CNF** Contains No Free Liquid

**DER** Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

**EDL** Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

**Practical Quantitation Limit** PQL

**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.

Job ID: 890-1740-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

Job ID: 890-1740-1

**Laboratory: Eurofins Carlsbad** 

**Narrative** 

Job Narrative 890-1740-1

#### REVISION

The report being provided is a revision of the original report sent on 12/28/2021. The report (revision 1) is being revised due to Per client email requesting sample ID change.

Report revision history

#### Receipt

The samples were received on 12/20/2021 3:24 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.8°C

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 880-15385 and analytical batch 880-15413 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10

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

#### HPLC/IC

Method 300 ORGFM 28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-15364 and analytical batch 880-15438 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. The associated samples are: PH03 (890-1740-1), PH03A (890-1740-2), (880-9605-A-4-A), (880-9605-A-4-D MS) and (880-9605-A-4-E MSD).

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

**Matrix: Solid** 

Lab Sample ID: 890-1740-1

# **Client Sample Results**

Client: WSP USA Inc.

Job ID: 890-1740-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

**Client Sample ID: PH03** 

Date Collected: 12/17/21 10:05 Date Received: 12/20/21 15:24

Sample Depth: 2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 16:47	1
Toluene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 16:47	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 16:47	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/22/21 10:08	12/22/21 16:47	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 16:47	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/22/21 10:08	12/22/21 16:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130			12/22/21 10:08	12/22/21 16:47	1
1,4-Difluorobenzene (Surr)	98		70 - 130			12/22/21 10:08	12/22/21 16:47	1

Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/23/21 19:53	1

Method: 8015 NM - Diesel Rang	ge Organic	s (DRO) (GC	<b>5</b> )					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/28/21 17:22	1

Method: 8015B NM - Diesel R	ange Organ	ics (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		12/22/21 14:29	12/23/21 21:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/21 14:29	12/23/21 21:17	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/21 14:29	12/23/21 21:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Method: 300.0 - Anions, Ion Chrom	atography	- Soluble			
o-Terphenyl	117	70 - 130	12/22/21 14:29	12/23/21 21:17	1
1-Chlorooctane	105	70 - 130	12/22/21 14:29	12/23/21 21:17	1

Analyte	Result (	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	191		4.99	mg/Kg			12/23/21 10:40	1

Lab Sample ID: 890-1740-2 **Client Sample ID: PH03A** Date Collected: 12/17/21 10:11 Date Received: 12/20/21 15:24

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 18:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 18:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 18:09	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 18:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 18:09	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 18:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130			12/22/21 10:08	12/22/21 18:09	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1740-1

Project/Site: BEU 29W VADER 100H SDG: TE012921044

Client Sample ID: PH03A Lab Sample ID: 890-1740-2 Date Collected: 12/17/21 10:11 **Matrix: Solid** 

Date Received: 12/20/21 15:24 Sample Depth: 4

Method: 8021B - Volatile	<b>Organic Compounds</b>	(GC) (Continued)
--------------------------	--------------------------	------------------

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1.4-Difluorobenzene (Surr)	81		70 - 130	12/22/21 10:08	12/22/21 18:09	

#### **Method: Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00399	U	0.00399	ma/Ka			12/23/21 19:53	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			12/28/21 17:22	1

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

	gg	,						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		12/22/21 14:29	12/23/21 22:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 22:17	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 22:17	1
Surrogate	%Recovery	Qualifier	l imits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	12/22/21 14:29	12/23/21 22:17	1
o-Terphenyl	108		70 - 130	12/22/21 14:29	12/23/21 22:17	1

# Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1150	4.98	mg/Kg			12/23/21 10:50	1

**Client Sample ID: PH03B** Lab Sample ID: 890-1740-3 **Matrix: Solid** 

Date Collected: 12/17/21 10:18 Date Received: 12/20/21 15:24

Sample Depth: 6

Mothod: 9021B	Volatile	Organic	Compounds	(CC)

Method. 002 ID - Volatile C	igaine compo	ulius (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 18:30	1
Toluene	< 0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 18:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 18:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/22/21 10:08	12/22/21 18:30	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 18:30	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/22/21 10:08	12/22/21 18:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130			12/22/21 10:08	12/22/21 18:30	1
1 4-Difluorobenzene (Surr)	102		70 - 130			12/22/21 10:08	12/22/21 18:30	1

#### **Method: Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			12/23/21 19:53	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		_	12/28/21 17:22	1

Date Received: 12/20/21 15:24

# **Client Sample Results**

Client: WSP USA Inc.

Job ID: 890-1740-1

Project/Site: BELL 29W VADER 100H

SDG: TE012921044

Project/Site: BEU 29W VADER 100H SDG: TE012921044

Client Sample ID: PH03B

Date Collected: 12/17/21 10:18

Lab Sample ID: 890-1740-3

Matrix: Solid

Sample Depth: 6

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		12/22/21 14:29	12/23/21 22:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 22:38	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 22:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130			12/22/21 14:29	12/23/21 22:38	1
o-Terphenyl	116		70 - 130			12/22/21 14:29	12/23/21 22:38	1
Method: 300.0 - Anions, Ion C	hromatogra	phy - Solu	ıble					
Analyte	_	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

25.1

mg/Kg

318

7

10

4.0

12/22/21 10:25

13

14

# **Surrogate Summary**

Client: WSP USA Inc. Job ID: 890-1740-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

Method: 8021B - Volatile Organic Compounds (GC)

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

			Perce	nt Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1739-A-1-B MS	Matrix Spike	126	80	
890-1739-A-1-C MSD	Matrix Spike Duplicate	117	80	
890-1740-1	PH03	130	98	
890-1740-2	PH03A	127	81	
890-1740-3	PH03B	118	102	
LCS 880-15329/1-A	Lab Control Sample	107	107	
LCSD 880-15329/2-A	Lab Control Sample Dup	106	105	
MB 880-15329/5-A	Method Blank	104	100	

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

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

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

			Percen	t Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1740-1	PH03	105	117	
890-1740-1 MS	PH03	96	97	
890-1740-1 MSD	PH03	94	96	
890-1740-2	PH03A	94	108	
890-1740-3	PH03B	104	116	
LCS 880-15385/2-A	Lab Control Sample	116	125	
LCSD 880-15385/3-A	Lab Control Sample Dup	98	109	
MB 880-15385/1-A	Method Blank	152 S1+	177 S1+	

**Surrogate Legend** 

1CO = 1-Chlorooctane OTPH = o-Terphenyl

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1740-1

SDG: TE012921044

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

Lab Sample ID: MB 880-15329/5-A

Lab Sample ID: LCS 880-15329/1-A

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 15330** 

**Analysis Batch: 15330** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Batch: 15329

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Toluene	< 0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Ethylbenzene	< 0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Xylenes, Total	< 0.00400	U	0.00400	mg/Kg		12/22/21 10:08	12/22/21 13:22	1

MB MB

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

12/22/21 10:08 12/22/21 13:22 **Client Sample ID: Lab Control Sample** 

12/22/21 10:08 12/22/21 13:22

Prepared

**Prep Type: Total/NA** 

Prep Batch: 15329

**Prep Type: Total/NA** 

Prep Batch: 15329

35

Analyzed

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Benzene 70 - 130 0.100 0.09632 mg/Kg 96 Toluene 0.100 0.08900 mg/Kg 89 70 - 130 Ethylbenzene 0.100 0.08828 mg/Kg 88 70 - 130 0.200 91 m-Xylene & p-Xylene 0.1813 mg/Kg 70 - 130 o-Xylene 0.100 0.08868 mg/Kg 70 - 130

LCS LCS

Surrogate	%Recovery Qual	ifier Limits
4-Bromofluorobenzene (Surr)	107	70 - 130
1,4-Difluorobenzene (Surr)	107	70 - 130

Client Sample ID: Lab Control Sample Dup

87

mg/Kg

**Matrix: Solid** 

**Analysis Batch: 15330** 

Lab Sample ID: LCSD 880-15329/2-A

Spike LCSD LCSD **RPD** %Rec. Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit Benzene 0.100 0.09431 mg/Kg 94 70 - 130 2 35 Toluene 0.100 0.08655 mg/Kg 87 70 - 130 3 35 Ethylbenzene 0.100 0.08460 mg/Kg 85 70 - 130 35 m-Xylene & p-Xylene 0.200 0.1728 mg/Kg 86 70 - 130 5 35

0.08727

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 890-1739-A-1-B MS

**Matrix: Solid** 

o-Xylene

**Analysis Batch: 15330** 

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

70 - 130

Prep Batch: 15329

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.0996	0.07379		mg/Kg	_	73	70 - 130	
Toluene	<0.00202	U	0.0996	0.09570		mg/Kg		96	70 - 130	

0.100

**Eurofins Carlsbad** 

Dil Fac

# **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1740-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

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

Lab Sample ID: 890-1739-A-1-B MS Client Sample ID: Matrix Spike **Matrix: Solid** Prep Type: Total/NA Prep Batch: 15329

**Analysis Batch: 15330** 

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00202	U	0.0996	0.1047		mg/Kg		105	70 - 130	
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1996		mg/Kg		100	70 - 130	
o-Xylene	<0.00202	U	0.0996	0.09489		mg/Kg		95	70 - 130	

MS MS Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 126 1,4-Difluorobenzene (Surr) 70 - 130 80

Lab Sample ID: 890-1739-A-1-C MSD **Client Sample ID: Matrix Spike Duplicate** 

**Matrix: Solid** 

Analysis Batch: 15330									Prep E	Batch: '	15329
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00202	U	0.0992	0.07689		mg/Kg		77	70 - 130	4	35
Toluene	<0.00202	U	0.0992	0.07955		mg/Kg		80	70 - 130	18	35
Ethylbenzene	<0.00202	U	0.0992	0.07982		mg/Kg		80	70 - 130	27	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1706		mg/Kg		86	70 - 130	16	35
o-Xylene	< 0.00202	U	0.0992	0.08304		mg/Kg		83	70 - 130	13	35

MSD MSD Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 117 1,4-Difluorobenzene (Surr) 80 70 - 130

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

Lab Sample ID: MB 880-15385/1-A **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA Prep Batch: 15385

**Analysis Batch: 15413** 

	MB	MB							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 20:18	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 20:18	1	
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 20:18	1	

MB MB Surrogate %Recovery Qualifier Limits Prepared Dil Fac Analyzed 1-Chlorooctane 152 S1+ 70 - 130 12/22/21 14:29 12/23/21 20:18 70 - 130 12/22/21 14:29 12/23/21 20:18 o-Terphenyl 177 S1+

Lab Sample ID: LCS 880-15385/2-A **Matrix: Solid** 

Analysis Ratch: 15413

Analysis Batch: 15413					Prep B	atch: 15385		
•	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	869.0		mg/Kg		87	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	826.1		mg/Kg		83	70 - 130	

**Eurofins Carlsbad** 

Prep Type: Total/NA

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Client: WSP USA Inc.

Job ID: 890-1740-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

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

Lab Sample ID: LCS 880-15385/2-A

**Matrix: Solid** 

**Analysis Batch: 15413** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 15385

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	125		70 - 130

Lab Sample ID: LCSD 880-15385/3-A **Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

**Analysis Batch: 15413** 

Prep Type: Total/NA Prep Batch: 15385

LCSD LCSD RPD Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits RPD Limit \*1 Gasoline Range Organics 1000 1239 mg/Kg 124 70 - 130 35 20 (GRO)-C6-C10 1000 Diesel Range Organics (Over 776.5 mg/Kg 78 70 - 130 6 20

C10-C28)

LCSD LCSD

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

Lab Sample ID: 890-1740-1 MS **Client Sample ID: PH03** 

**Matrix: Solid** 

**Analysis Batch: 15413** 

**Prep Type: Total/NA** Prep Batch: 15385

%Rec.

Sample Sample Spike MS MS Result Qualifier Added Result Qualifier Limits Analyte Unit D %Rec <49.9 U\*1 Gasoline Range Organics 996 1249 mg/Kg 121 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 996 794.6 mg/Kg 75 70 - 130

C10-C28)

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 96 o-Terphenyl 97 70 - 130

Lab Sample ID: 890-1740-1 MSD **Client Sample ID: PH03 Matrix: Solid Prep Type: Total/NA** 

**Analysis Batch: 15413** Prep Batch: 15385 Sample Sample Spike MSD MSD %Rec DDD

	Campic	Campic	Opine	IIIOD	INIOD				/01 <b>CC</b> .		111 0	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	995	1226		mg/Kg		118	70 - 130	2	20	
Diesel Range Organics (Over	<49.9	U	995	777.4		mg/Kg		74	70 - 130	2	20	

C10-C28)

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	96		70 - 130

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Client Sample ID: PH03B

Client Sample ID: PH03B

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

Client: WSP USA Inc. Job ID: 890-1740-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15278/1-A

**Matrix: Solid** 

**Analysis Batch: 15401** 

MB MB

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

Lab Sample ID: LCS 880-15278/2-A

**Matrix: Solid** 

**Analysis Batch: 15401** 

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

Lab Sample ID: LCSD 880-15278/3-A

**Matrix: Solid** 

**Analysis Batch: 15401** 

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

Lab Sample ID: 890-1740-3 MS

**Matrix: Solid** 

**Analysis Batch: 15401** 

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 1260 318 1571 mg/Kg 100 90 - 110

Lab Sample ID: 890-1740-3 MSD

**Matrix: Solid** 

**Analysis Batch: 15401** 

MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Chloride 318 1260 1567 99 mg/Kg 90 - 110

Lab Sample ID: MB 880-15364/1-A

**Matrix: Solid** 

**Analysis Batch: 15438** 

MB MB

Result Qualifier Analyte RL Unit Dil Fac Prepared Analyzed 5.00 12/23/21 03:02 Chloride <5.00 U mg/Kg

Lab Sample ID: LCS 880-15364/2-A

**Matrix: Solid** 

**Analysis Batch: 15438** 

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

Lab Sample ID: LCSD 880-15364/3-A

**Matrix: Solid** 

Released to Imaging: 7/6/2022 2:44:10 PM

**Analysis Batch: 15438** 

Spike LCSD LCSD %Rec. **RPD RPD** Added Limits Analyte Result Qualifier Unit D %Rec Limit Chloride 250 260.5 mg/Kg 104 90 - 110 20

# **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1740-1 Project/Site: BEU 29W VADER 100H

SDG: TE012921044

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-9605-A-4-D MS **Client Sample ID: Matrix Spike Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 15438** 

Sample Sample Spike MS MS %Rec. Result Qualifier Analyte Result Qualifier Added Unit D %Rec Limits Chloride <5.02 U F1 251 293.9 F1 mg/Kg 115 90 - 110

Lab Sample ID: 880-9605-A-4-E MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** 

**Prep Type: Soluble** 

**Analysis Batch: 15438** Sample Sample Spike MSD MSD %Rec. **RPD** 

**Analyte** Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Chloride <5.02 U F1 251 293.0 F1 90 - 110 0 mg/Kg 115

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1740-1 SDG: TE012921044

#### **GC VOA**

#### Prep Batch: 15329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1740-1	PH03	Total/NA	Solid	5035	
890-1740-2	PH03A	Total/NA	Solid	5035	
890-1740-3	PH03B	Total/NA	Solid	5035	
MB 880-15329/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-15329/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-15329/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1739-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-1739-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### **Analysis Batch: 15330**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1740-1	PH03	Total/NA	Solid	8021B	15329
890-1740-2	PH03A	Total/NA	Solid	8021B	15329
890-1740-3	PH03B	Total/NA	Solid	8021B	15329
MB 880-15329/5-A	Method Blank	Total/NA	Solid	8021B	15329
LCS 880-15329/1-A	Lab Control Sample	Total/NA	Solid	8021B	15329
LCSD 880-15329/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	15329
890-1739-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	15329
890-1739-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	15329

#### **Analysis Batch: 15505**

Lab Sample ID 890-1740-1	Client Sample ID PH03	Prep Type Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
890-1740-2	PH03A	Total/NA	Solid	Total BTEX	
890-1740-3	PH03B	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Prep Batch: 15385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1740-1	PH03	Total/NA	Solid	8015NM Prep	
890-1740-2	PH03A	Total/NA	Solid	8015NM Prep	
890-1740-3	PH03B	Total/NA	Solid	8015NM Prep	
MB 880-15385/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15385/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-15385/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1740-1 MS	PH03	Total/NA	Solid	8015NM Prep	
890-1740-1 MSD	PH03	Total/NA	Solid	8015NM Prep	

#### **Analysis Batch: 15413**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1740-1	PH03	Total/NA	Solid	8015B NM	15385
890-1740-2	PH03A	Total/NA	Solid	8015B NM	15385
890-1740-3	PH03B	Total/NA	Solid	8015B NM	15385
MB 880-15385/1-A	Method Blank	Total/NA	Solid	8015B NM	15385
LCS 880-15385/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15385
LCSD 880-15385/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15385
890-1740-1 MS	PH03	Total/NA	Solid	8015B NM	15385
890-1740-1 MSD	PH03	Total/NA	Solid	8015B NM	15385

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1740-1

SDG: TE012921044

#### GC Semi VOA

#### **Analysis Batch: 15674**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1740-1	PH03	Total/NA	Solid	8015 NM	
890-1740-2	PH03A	Total/NA	Solid	8015 NM	
890-1740-3	PH03B	Total/NA	Solid	8015 NM	

#### **HPLC/IC**

#### Leach Batch: 15278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1740-3	PH03B	Soluble	Solid	DI Leach	
MB 880-15278/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15278/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15278/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1740-3 MS	PH03B	Soluble	Solid	DI Leach	
890-1740-3 MSD	PH03B	Soluble	Solid	DI Leach	

#### Leach Batch: 15364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1740-1	PH03	Soluble	Solid	DI Leach	
890-1740-2	PH03A	Soluble	Solid	DI Leach	
MB 880-15364/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15364/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15364/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-9605-A-4-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-9605-A-4-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 15401**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1740-3	PH03B	Soluble	Solid	300.0	15278
MB 880-15278/1-A	Method Blank	Soluble	Solid	300.0	15278
LCS 880-15278/2-A	Lab Control Sample	Soluble	Solid	300.0	15278
LCSD 880-15278/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15278
890-1740-3 MS	PH03B	Soluble	Solid	300.0	15278
890-1740-3 MSD	PH03B	Soluble	Solid	300.0	15278

#### **Analysis Batch: 15438**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1740-1	PH03	Soluble	Solid	300.0	15364
890-1740-2	PH03A	Soluble	Solid	300.0	15364
MB 880-15364/1-A	Method Blank	Soluble	Solid	300.0	15364
LCS 880-15364/2-A	Lab Control Sample	Soluble	Solid	300.0	15364
LCSD 880-15364/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15364
880-9605-A-4-D MS	Matrix Spike	Soluble	Solid	300.0	15364
880-9605-A-4-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15364

Client Sample ID: PH03

Lab Sample ID: 890-1740-1

**Matrix: Solid** 

Date Collected: 12/17/21 10:05 Date Received: 12/20/21 15:24

Project/Site: BEU 29W VADER 100H

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 16:47	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/23/21 19:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15385	12/22/21 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15413	12/23/21 21:17	AJ	XEN MID
Soluble	Leach	DI Leach			15364	12/22/21 10:49	CA	XEN MID
Soluble	Analysis	300.0		1	15438	12/23/21 10:40	SC	XEN MID

**Client Sample ID: PH03A** Lab Sample ID: 890-1740-2 Date Collected: 12/17/21 10:11

**Matrix: Solid** 

Date Received: 12/20/21 15:24

Batch Batch Dilution Batch **Prepared** Method Number **Prep Type** Type Run **Factor** or Analyzed Analyst Lab Total/NA 5035 15329 12/22/21 10:08 XEN MID Prep MR Total/NA 8021B 15330 12/22/21 18:09 MR XEN MID Analysis 1 Total/NA Total BTEX Analysis 1 15505 12/23/21 19:53 AJ XEN MID Total/NA 8015 NM XEN MID Analysis 1 15674 12/28/21 17:22 AJ Total/NA Prep 8015NM Prep 15385 12/22/21 14:29 DM XEN MID Total/NA 8015B NM XEN MID Analysis 1 15413 12/23/21 22:17 AJ Soluble 15364 12/22/21 10:49 CA XEN MID Leach DI Leach 15438 12/23/21 10:50 SC XEN MID Soluble Analysis 300.0 1

Client Sample ID: PH03B Lab Sample ID: 890-1740-3 Date Collected: 12/17/21 10:18 **Matrix: Solid** 

Date Received: 12/20/21 15:24

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 18:30	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/23/21 19:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15385	12/22/21 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15413	12/23/21 22:38	AJ	XEN MID
Soluble	Leach	DI Leach			15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		5	15401	12/22/21 10:25	SC	XEN MID

**Laboratory References:** 

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

#### **Accreditation/Certification Summary**

 Client: WSP USA Inc.
 Job ID: 890-1740-1

 Project/Site: BEU 29W VADER 100H
 SDG: TE012921044

#### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-21-22	06-30-22
The following analyte:	s are included in this rend	ort but the laboratory is r	not certified by the governing authority.	This list may include analytes for wh
the agency does not	•	ort, but the laboratory is i	iot certified by the governing authority.	This list may include analytes for wil
• ,	•	Matrix	Analyte	This list may include analytes for will
the agency does not o	offer certification.	•		This list may include analytes for wh

4

\_

6

7

10

12

13

#### **Method Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1740-1

SDG: TE012921044

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

#### **Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

**Eurofins Carlsbad** 

1

3

4

5

7

10

10

13

Н

#### **Sample Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1740-1 SDG: TE012921044

3DG. 1E012921044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1740-1	PH03	Solid	12/17/21 10:05	12/20/21 15:24	2
890-1740-2	PH03A	Solid	12/17/21 10:11	12/20/21 15:24	4
890-1740-3	PH03B	Solid	12/17/21 10:18	12/20/21 15:24	6

3

4

**5** 

0

9

10

12

13

					Chi	ain o	Chain of Custody	tody			Work C	Work Order No:		
X			Houst	ton,TX (281) 240-4	200 Dallas	TX (214) 9	02-0300 Sa	Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334	509-3334					
			Hobbs,NM (575-3	92-7550) Phoenix	(,AZ (480-3	55-0900) A	tlanta,GA (7	Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)	pa,FL (813-620-2	000)	www.xe	www.xenco.com	Page_	of 1
Project Wanager: Ka	Kalei Jennings			Bill to: (if different)	ent) Ad	Adrian Baker					Worl	Work Order Comments		
Company Name: W	WSP			Company Name:	L	XTO Energy			Pro	Program: UST/PST □PRP □Brownfields	ST LPRP	Brownfi	elds RkC	C Superfund
	3300 North A Street	et		Address:		3104 E Green Street	n Street			State of Project:	ect:			
City, State ZIP: Mi	Midland, TX 79705	5		City, State ZIP:		Carlsbad, NM 88220	1 88220		Rep	Reporting:Level II Level III	II Level I			URRP Level IV
	817-683-2503		Ema	Gilbert.Moreno@wsp.com,	dsw@oue	BI .	rian.Bake	Adrian.Baker@exxonmobil.c	com	Deliverables: EDD		ADaPT -		Other:
Project Name: BE	BEU 29W Vader 100H	H00		Turn Around				ANALYSI	ANALYSIS REQUEST				Wor	Work Order Notes
2.18	TE012921044		Ro	Routine			+		_				CC 15682	1568221001
P.O. Number:			Rush	sh:					_	_	-	_	AFE DD 201	FE DD 2017 04339 CAP CMP 01
Sampler's Name: Gi	Gilbert Moreno		Du	Due Date:									API 30-025-46515	25-46515
SAMPLE RECEIPT	Temp Blank:	Yes	No Wet Ice:	e: (Nes) No										
Temperature (°C):	4.0/3	óş (	Thermometer ID	ler ID (	iners	_	))	80 =	890 1740 Chain of Custody					
Received Intact:	(Yes) No		MM	R			300.		O Contains	o colony		ļ		
Cooler Custody Seals:	8	1	Correction Factor:	97. / O ^			PA	_	_		_		TAT starts	TAT starts the day recevied by the
Calliple Custouy Seals.	ies	1	Total Collitanicis	9			de (		_					
Sample Identification		Matrix Sampled	e Time led Sampled	Depth	Numb	втех	Chlori						Sam,	Sample Comments
50Hd		S 12.17.21	.21 10:05	2	1	×	×							
PH \$5 A		S 12.17.21	.21 [0:1]	4		×	×							
PHØSB		S 12.17.21	.21 10:18	6	×	×	×							
			1	1	12-17.	12.		1						
			100	1	1	$\vdash$	-	-		-				
		6	1				-	<del> -</del>	+		+			
		$\frac{1}{1}$					+		+		+			
Total 200.7 / 6010 200.8 / 6020:	0 200.8 / 6020:	0:	BRCRA 1	RCRA 13PPM Texas 11 A		Sb As Ba Be	Be B Cd	Ca Cr Co C	Cu Fe Pb Mg Mn Mo I	Mg Mn Mo Ni Se Ag Ti U	K Se Ag	Si02	a Sr TI S	Na Sr Tl Sn U V Zn 1631/245.1/7470 / 7471∶Hg
						To You	co ite affilia	tee and subcontracto	re it accions star	ndard terms and conditions	conditions			
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Aenco, its artillates and subcontractors, it assigns stationary familiar and community 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 \$7.5.00 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.	gnature of this document and relinquishment of samples constitutes a valid purchase order from client company to Aenco, its amiliates and succontractors, it assigns scalled using an expension of the control of the control of the control of the control of 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	ment of samples if samples and sh plied to each proj	constitutes a valid hall not assume any ject and a charge o	purchase order tro y responsibility for a of \$5 for each sampl	any losses o	r expenses i to Xenco, bu	ncurred by the transfer of the	tes and supcontractors client if such losse de	es are due to circulos enforced unless	mstances beyor previously neg	nd the control otiated.			
Relinquished by: (Signature)	Signature)	Rece	Received by: (Signature)	ature)	D	Date/Time		Relinquished by: (Signature)	: (Signature)	Re	eceived by	Received by: (Signature)	(e)	Date/Time
CAS	g	( lue	9		12.3	1 C:06.	h2891							
3			<				4 0							
5	_						თ							

#### **Login Sample Receipt Checklist**

Client: WSP USA Inc. Job Number: 890-1740-1 SDG Number: TE012921044

Login Number: 1740 **List Source: Eurofins Carlsbad** 

List Number: 1 Creator: Clifton, Cloe

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: 890-1740-1 SDG Number: TE012921044

Login Number: 1740 **List Source: Eurofins Midland** List Creation: 12/21/21 02:08 PM List Number: 2

Creator: Rodriguez, Leticia

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

<6mm (1/4").



## **Environment Testing America**

#### **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1741-1

Laboratory Sample Delivery Group: TE012921044 Client Project/Site: BEU 29 W VADER 100H

Revision: 1

For:

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

Attn: Kalei Jennings

KRAMER

Authorized for release by: 3/25/2022 2:01:33 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

Review your project results through

.....LINKS .....

Total Access

Have a Question?



Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 7/6/2022 2:44:10 PM

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.

1

\_\_\_\_\_

3

6

a

10

12

Client: WSP USA Inc.

Laboratory Job ID: 890-1741-1

Project/Site: BEU 29 W VADER 100H

SDG: TE012921044

**Table of Contents** 

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	16
Lab Chronicle	19
Certification Summary	20
Method Summary	21
Sample Summary	22
Chain of Custody	23
Receint Checklists	24

\_

3

4

**b** 

Ō

10

4.0

13

#### **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-1741-1 Project/Site: BEU 29 W VADER 100H

SDG: TE012921044

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

\*1 LCS/LCSD RPD exceeds control limits.

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

**HPLC/IC** 

Qualifier **Qualifier Description** 

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

Duplicate Error Ratio (normalized absolute difference) **DER** 

Dil Fac **Dilution Factor** 

Detection Limit (DoD/DOE) DL

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) Minimum Detectable Concentration (Radiochemistry) MDC

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

**Practical Quantitation Limit PQL** 

**PRES** Presumptive QC **Quality Control** 

**RER** Relative Error Ratio (Radiochemistry)

RI 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: BEU 29 W VADER 100H

Job ID: 890-1741-1

SDG: TE012921044

Job ID: 890-1741-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-1741-1

#### REVISION

The report being provided is a revision of the original report sent on 12/28/2021. The report (revision 1) is being revised due to Per client email requesting sample ID change.

Report revision history

#### Receipt

The samples were received on 12/20/2021 3:24 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.8°C

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 880-15385 and analytical batch 880-15413 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10

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.

**Matrix: Solid** 

Client: WSP USA Inc.

Job ID: 890-1741-1 Project/Site: BEU 29 W VADER 100H SDG: TE012921044

Lab Sample ID: 890-1741-1

**Client Sample ID: PH04** Date Collected: 12/17/21 10:32

Date Received: 12/20/21 15:24

Sample Depth: 2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 18:50	1
Toluene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 18:50	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 18:50	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/22/21 10:08	12/22/21 18:50	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 18:50	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/22/21 10:08	12/22/21 18:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130			12/22/21 10:08	12/22/21 18:50	1
1,4-Difluorobenzene (Surr)	109		70 - 130			12/22/21 10:08	12/22/21 18:50	1
Method: Total BTEX - Total	BTEX Calcula	tion						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/23/21 19:53	1
Method: 8015 NM - Diesel I	Range Organic	s (DRO) (0	SC)					
Analyte	•	Qualifier	DI	Unit	n	Dropared	Analyzod	Dil Eac

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/28/21 17:22	1
Method: 8015B NM - Diesel Ra	nge Organi	cs (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		12/22/21 14:29	12/23/21 22:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/21 14:29	12/23/21 22:57	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/21 14:29	12/23/21 22:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130			12/22/21 14:29	12/23/21 22:57	1
o-Terphenyl	119		70 - 130			12/22/21 14:29	12/23/21 22:57	1

Method: 300.0 - Anions, Ion Ch	romatography - Solub	le					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	636	5.05	mg/Kg			12/22/21 10:50	1

**Client Sample ID: PH04A** Lab Sample ID: 890-1741-2 Date Collected: 12/17/21 10:45 **Matrix: Solid** 

Date Received: 12/20/21 15:24

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 19:11	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 19:11	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 19:11	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 19:11	1
o-Xylene	0.00202		0.00200	mg/Kg		12/22/21 10:08	12/22/21 19:11	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 19:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			12/22/21 10:08	12/22/21 19:11	1

**Matrix: Solid** 

Client: WSP USA Inc.

Job ID: 890-1741-1 Project/Site: BEU 29 W VADER 100H SDG: TE012921044

Lab Sample ID: 890-1741-2

**Client Sample ID: PH04A** 

Date Collected: 12/17/21 10:45 Date Received: 12/20/21 15:24

Sample Depth: 4

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	97	70 - 130	12/22/21 10:08	12/22/21 19:11	1

#### **Method: Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/23/21 19:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/28/21 17:22	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		12/22/21 09:41	12/22/21 21:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/21 09:41	12/22/21 21:17	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/21 09:41	12/22/21 21:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102	70 - 130	12/22/21 09:4	12/22/21 21:17	1
o-Terphenyl	100	70 - 130	12/22/21 09:-	11 12/22/21 21:17	1

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

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1650	49.7	mg/Kg			12/22/21 10:58	10

**Client Sample ID: PH04B** Lab Sample ID: 890-1741-3 **Matrix: Solid** 

Date Collected: 12/17/21 10:54 Date Received: 12/20/21 15:24

Sample Depth: 6

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

monious coz ib volunio os	gaine compo	unao (GG)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 19:31	1
Toluene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 19:31	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 19:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/22/21 10:08	12/22/21 19:31	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		12/22/21 10:08	12/22/21 19:31	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/22/21 10:08	12/22/21 19:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130			12/22/21 10:08	12/22/21 19:31	1
1,4-Difluorobenzene (Surr)	105		70 - 130			12/22/21 10:08	12/22/21 19:31	1

#### **Method: Total BTEX - Total BTEX Calculation**

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

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

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

**Matrix: Solid** 

12/22/21 11:07

#### **Client Sample Results**

Client: WSP USA Inc.

Job ID: 890-1741-1

Project/Site: BELL 20 W VADER 100H

SDG: TE012921044

Project/Site: BEU 29 W VADER 100H

Client Sample ID: PH04B

Lab Sample ID: 890-1741-3

Client Sample ID: PH04B

Date Collected: 12/17/21 10:54

Date Received: 12/20/21 15:24

Lab Sa

1360

Sample Depth: 6

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/23/21 14:53	12/24/21 23:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/23/21 14:53	12/24/21 23:39	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/23/21 14:53	12/24/21 23:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130			12/23/21 14:53	12/24/21 23:39	1
o-Terphenyl	92		70 - 130			12/23/21 14:53	12/24/21 23:39	1
Method: 300.0 - Anions, Ion C	hromatogra	phy - Solι	ıble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

49.5

mg/Kg

8

10

11

10

13

#### **Surrogate Summary**

Client: WSP USA Inc.

Job ID: 890-1741-1

Project/Site: BEU 29 W VADER 100H

SDG: TE012921044

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

			Perce	nt Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1739-A-1-B MS	Matrix Spike	126	80	
890-1739-A-1-C MSD	Matrix Spike Duplicate	117	80	
890-1741-1	PH04	126	109	
890-1741-2	PH04A	112	97	
890-1741-3	PH04B	128	105	
LCS 880-15329/1-A	Lab Control Sample	107	107	
LCSD 880-15329/2-A	Lab Control Sample Dup	106	105	
MB 880-15329/5-A	Method Blank	104	100	

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

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

Matrix: Solid Prep Type: Total/NA

			Percent	Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-9652-A-1-F MS	Matrix Spike	92	86	
880-9652-A-1-G MSD	Matrix Spike Duplicate	92	87	
890-1740-A-1-D MS	Matrix Spike	96	97	
890-1740-A-1-E MSD	Matrix Spike Duplicate	94	96	
890-1741-1	PH04	103	119	
890-1741-2	PH04A	102	100	
890-1741-3	PH04B	101	92	
890-1743-A-1-D MS	Matrix Spike	92	87	
890-1743-A-1-E MSD	Matrix Spike Duplicate	103	101	
LCS 880-15385/2-A	Lab Control Sample	116	125	
LCSD 880-15385/3-A	Lab Control Sample Dup	98	109	
MB 880-15385/1-A	Method Blank	152 S1+	177 S1+	

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

Matrix: Solid Prep Type: Total/NA

_			Perce	nt Surrogate Recovery (Acceptance Limits)
		1CO2	OTPH2	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
LCS 880-15317/2-A	Lab Control Sample	110	115	
LCS 880-15481/2-A	Lab Control Sample	112	110	
LCSD 880-15317/3-A	Lab Control Sample Dup	119	114	
LCSD 880-15481/3-A	Lab Control Sample Dup	130	129	
MB 880-15317/1-A	Method Blank	115	120	
MB 880-15481/1-A	Method Blank	122	119	
Surrogate Legend				
1CO = 1-Chlorooctane				

**Eurofins Carlsbad** 

2

2

А

J

8

10

4.0

13

OTPH = o-Terphenyl

#### **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1741-1 Project/Site: BEU 29 W VADER 100H SDG: TE012921044

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-15329/5-A

**Matrix: Solid** 

**Analysis Batch: 15330** 

**Client Sample ID: Method Blank** 

**Prep Type: Total/NA** 

Prep Batch: 15329

	MB	МВ					•	
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/22/21 10:08	12/22/21 13:22	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	12/22/21 10:0	8 12/22/21 13:22	1
1,4-Difluorobenzene (Surr)	100		70 - 130	12/22/21 10:0	8 12/22/21 13:22	1

Lab Sample ID: LCS 880-15329/1-A

Matrix: Solid

**Analysis Batch: 15330** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 15329

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09632		mg/Kg		96	70 - 130	
Toluene	0.100	0.08900		mg/Kg		89	70 - 130	
Ethylbenzene	0.100	0.08828		mg/Kg		88	70 - 130	
m-Xylene & p-Xylene	0.200	0.1813		mg/Kg		91	70 - 130	
o-Xylene	0.100	0.08868		mg/Kg		89	70 - 130	

LCS LCS

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

Lab Sample ID: LCSD 880-15329/2-A **Client Sample ID: Lab Control Sample Dup** 

Matrix: Solid

**Analysis Batch: 15330** 

Prep Type: Total/NA Prep Batch: 15329

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09431		mg/Kg		94	70 - 130	2	35
Toluene	0.100	0.08655		mg/Kg		87	70 - 130	3	35
Ethylbenzene	0.100	0.08460		mg/Kg		85	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1728		mg/Kg		86	70 - 130	5	35
o-Xylene	0.100	0.08727		mg/Kg		87	70 - 130	2	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 890-1739-A-1-B MS

**Matrix: Solid** 

**Analysis Batch: 15330** 

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

Prep Batch: 15329

-	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.0996	0.07379		mg/Kg		73	70 - 130	
Toluene	<0.00202	U	0.0996	0.09570		mg/Kg		96	70 - 130	

Prep Batch: 15329

Prep Type: Total/NA

#### **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1741-1 Project/Site: BEU 29 W VADER 100H SDG: TE012921044

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

Lab Sample ID: 890-1739-A-1-B MS Client Sample ID: Matrix Spike **Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 15330** 

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00202	U	0.0996	0.1047		mg/Kg		105	70 - 130	
m-Xylene & p-Xylene	< 0.00403	U	0.199	0.1996		mg/Kg		100	70 - 130	
o-Xylene	<0.00202	U	0.0996	0.09489		mg/Kg		95	70 - 130	

MS MS Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 126 1,4-Difluorobenzene (Surr) 70 - 130 80

Lab Sample ID: 890-1739-A-1-C MSD **Client Sample ID: Matrix Spike Duplicate** 

**Matrix: Solid** 

Analysis Batch: 15330									Prep E	Batch: '	15329
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00202	U	0.0992	0.07689		mg/Kg		77	70 - 130	4	35
Toluene	<0.00202	U	0.0992	0.07955		mg/Kg		80	70 - 130	18	35
Ethylbenzene	<0.00202	U	0.0992	0.07982		mg/Kg		80	70 - 130	27	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1706		mg/Kg		86	70 - 130	16	35
o-Xylene	<0.00202	U	0.0992	0.08304		mg/Kg		83	70 - 130	13	35

MSD MSD Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 117 1,4-Difluorobenzene (Surr) 80 70 - 130

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

Lab Sample ID: MB 880-15317/1-A **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA Prep Batch: 15317

**Analysis Batch: 15328** 

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

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

Lab Sample ID: LCS 880-15317/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** 

**Analysis Batch: 15328** Prep Batch: 15317 Snika

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

**Eurofins Carlsbad** 

Prep Type: Total/NA

Client: WSP USA Inc.

Job ID: 890-1741-1 Project/Site: BEU 29 W VADER 100H SDG: TE012921044

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

Lab Sample ID: LCS 880-15317/2-A

**Matrix: Solid** 

**Analysis Batch: 15328** 

**Client Sample ID: Lab Control Sample** 

104

70 - 130

**Client Sample ID: Matrix Spike Duplicate** 

Prep Type: Total/NA

Prep Batch: 15317

LCS LCS

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

Lab Sample ID: LCSD 880-15317/3-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid							Prep ly	pe: lot	al/NA
Analysis Batch: 15328							Prep E	Batch: 1	15317
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	869.0		mg/Kg		87	70 - 130	9	20

1036

mg/Kg

1000

Diesel Range Organics (Over C10-C28)

(GRO)-C6-C10

LCSD LCSD

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

Lab Sample ID: 890-1743-A-1-D	MS			Client Sample ID: Matrix Spike
Matrix: Solid				Prep Type: Total/NA
Analysis Batch: 15328				Prep Batch: 15317
S	ample Sample	Spike	MS MS	%Rec.

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

C10-C28)

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

Lab Sample ID: 890-1743-A-1-E MSD

Released to Imaging: 7/6/2022 2:44:10 PM

**Matrix: Solid** 

Analysis Batch: 15328									Prep E	satcn: 1	15317
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	995	1002		mg/Kg		98	70 - 130	3	20
Diesel Range Organics (Over	126		995	1192		mg/Kg		107	70 - 130	16	20

C10-C28)

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

**Eurofins Carlsbad** 

Prep Type: Total/NA

Client: WSP USA Inc.

Project/Site: BEU 29 W VADER 100H

Job ID: 890-1741-1

SDG: TE012921044

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

Lab Sample ID: MB 880-15385/1-A

Lab Sample ID: LCS 880-15385/2-A

**Matrix: Solid** 

**Analysis Batch: 15413** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Batch: 15385

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 20:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 20:18	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 20:18	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	152	S1+	70 - 130	12/22/21 14:29	12/23/21 20:18	1
o-Terphenyl	177	S1+	70 - 130	12/22/21 14:29	12/23/21 20:18	1

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** Prep Batch: 15385

Prep Type: Total/NA

**Matrix: Solid Analysis Batch: 15413** LCS LCS Spike

%Rec. Analyte Added Result Qualifier Unit Limits D %Rec 1000 869.0 87 70 - 130 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 826.1 mg/Kg 83 70 - 130 C10-C28)

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	125		70 - 130

Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Lab Sample ID: LCSD 880-15385/3-A

Analysis Batch: 15413							Prep E	5385	
-	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	1239	*1	mg/Kg		124	70 - 130	35	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	776.5		mg/Kg		78	70 - 130	6	20
C10 C20)									

C10-C28)

LCSD LCSD

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

Lab Sample ID: 890-1740-A-1-D MS

**Matrix: Solid** 

**Analysis Batch: 15413** 

Client Samp	le ID: Matrix Spike
P	rep Type: Total/NA

Prep Batch: 15385

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	996	1249		mg/Kg		121	70 - 130	
Diesel Range Organics (Over	<49.9	U	996	794.6		mg/Kg		75	70 - 130	

Client: WSP USA Inc. Job ID: 890-1741-1 Project/Site: BEU 29 W VADER 100H SDG: TE012921044

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

Lab Sample ID: 890-1740-A-1-D MS

**Matrix: Solid** 

**Analysis Batch: 15413** 

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

Prep Batch: 15385

MS MS %Recovery Qualifier Limits Surrogate 1-Chlorooctane 96 70 - 130 o-Terphenyl 97 70 - 130

Lab Sample ID: 890-1740-A-1-E MSD

**Matrix: Solid** 

**Analysis Batch: 15413** 

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Total/NA** 

Prep Batch: 15385

RPD MSD MSD %Rec. Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit <49.9 U \*1 Gasoline Range Organics 995 1226 mg/Kg 118 70 - 130 2 20 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 995 777.4 mg/Kg 74 70 - 130 2 20 C10-C28)

MSD MSD

MR MR

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 94 70 - 130 70 - 130 o-Terphenyl 96

Lab Sample ID: MB 880-15481/1-A

**Matrix: Solid** 

**Analysis Batch: 15426** 

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

Prep Batch: 15481

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	237.1		50.0	mg/Kg		12/23/21 14:53	12/24/21 16:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/23/21 14:53	12/24/21 16:42	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/23/21 14:53	12/24/21 16:42	1
	МВ	MB						

%Recovery Qualifier Surrogate Limits Prepared Analyzed Dil Fac 12/23/21 14:53 12/24/21 16:42 1-Chlorooctane 122 70 - 130 119 70 - 130 12/23/21 14:53 12/24/21 16:42 o-Terphenyl

Lab Sample ID: LCS 880-15481/2-A

**Matrix: Solid** 

**Analysis Batch: 15426** 

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

Prep Batch: 15481

LCS LCS Spike %Rec. Added Result Qualifier %Rec Limits Analyte Unit 1000 872.6 Gasoline Range Organics 87 70 - 130 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 955.9 mg/Kg 96 70 - 130

C10-C28)

LCS LCS

Surrogate	%Recovery Qualifie	r Limits
1-Chlorooctane	112	70 - 130
o-Terphenvl	110	70 - 130

Client: WSP USA Inc.

Project/Site: BEU 29 W VADER 100H

Job ID: 890-1741-1

SDG: TE012921044

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

Lab Sample ID: LCSD 880-15481/3-A

**Matrix: Solid** 

**Analysis Batch: 15426** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 15481

Spike LCSD LCSD %Rec. **RPD** Added Result Qualifier Unit %Rec Limits RPD Limit Analyte Gasoline Range Organics 1000 945.9 mg/Kg 95 70 - 130 8 (GRO)-C6-C10 1000 Diesel Range Organics (Over 1054 105 70 - 130 mg/Kg 10 20

20

C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 130 70 - 130 o-Terphenyl 129

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

Prep Batch: 15481

Lab Sample ID: 880-9652-A-1-F MS **Matrix: Solid** 

Lab Sample ID: 880-9652-A-1-G MSD

**Analysis Batch: 15426** 

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	1030		mg/Kg		103	70 - 130	
Diesel Range Organics (Over	<49.9	U	996	1238		mg/Kg		122	70 - 130	

C10-C28)

	MS	IVIS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	86		70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 15481

**Analysis Batch: 15426** 

**Matrix: Solid** 

Spike MSD MSD %Rec. RPD Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics <49.9 U 995 1041 20 105 70 - 130 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 995 1250 mg/Kg 123 70 - 130 20

C10-C28)

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-15278/1-A **Client Sample ID: Method Blank Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15401** 

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

Client: WSP USA Inc.

Job ID: 890-1741-1 Project/Site: BEU 29 W VADER 100H

SDG: TE012921044

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-15278/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15401** 

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

Lab Sample ID: LCSD 880-15278/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15401** 

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

Lab Sample ID: 890-1740-A-3-B MS Client Sample ID: Matrix Spike **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15401** 

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Limits **Analyte** Unit %Rec Chloride 318 1260 1571 100 90 - 110 mg/Kg

Lab Sample ID: 890-1740-A-3-C MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15401** 

Spike MSD MSD %Rec. **RPD** Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Chloride 1260 1567 318 mg/Kg 90 - 110

Lab Sample ID: 890-1743-A-4-B MS **Client Sample ID: Matrix Spike Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 15401** 

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

Lab Sample ID: 890-1743-A-4-C MSD

**Matrix: Solid** 

**Analysis Batch: 15401** 

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

**Eurofins Carlsbad** 

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike Duplicate

Client: WSP USA Inc.

Project/Site: BEU 29 W VADER 100H

Job ID: 890-1741-1

SDG: TE012921044

#### **GC VOA**

#### Prep Batch: 15329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1741-1	PH04	Total/NA	Solid	5035	
890-1741-2	PH04A	Total/NA	Solid	5035	
890-1741-3	PH04B	Total/NA	Solid	5035	
MB 880-15329/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-15329/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-15329/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1739-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-1739-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### **Analysis Batch: 15330**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1741-1	PH04	Total/NA	Solid	8021B	15329
890-1741-2	PH04A	Total/NA	Solid	8021B	15329
890-1741-3	PH04B	Total/NA	Solid	8021B	15329
MB 880-15329/5-A	Method Blank	Total/NA	Solid	8021B	15329
LCS 880-15329/1-A	Lab Control Sample	Total/NA	Solid	8021B	15329
LCSD 880-15329/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	15329
890-1739-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	15329
890-1739-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	15329

#### **Analysis Batch: 15505**

<b>Lab Sample ID</b> 890-1741-1	Client Sample ID PH04	Prep Type Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
890-1741-2	PH04A	Total/NA	Solid	Total BTEX	
890-1741-3	PH04B	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Prep Batch: 15317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1741-2	PH04A	Total/NA	Solid	8015NM Prep	
MB 880-15317/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15317/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-15317/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1743-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1743-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### **Analysis Batch: 15328**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1741-2	PH04A	Total/NA	Solid	8015B NM	15317
MB 880-15317/1-A	Method Blank	Total/NA	Solid	8015B NM	15317
LCS 880-15317/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15317
LCSD 880-15317/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15317
890-1743-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	15317
890-1743-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	15317

#### Prep Batch: 15385

<b>Lab Sample ID</b> 890-1741-1	Client Sample ID PH04	Prep Type Total/NA	Matrix Solid	Method 8015NM Prep	Prep Batch
MB 880-15385/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15385/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

Client: WSP USA Inc.

Project/Site: BEU 29 W VADER 100H

Job ID: 890-1741-1

SDG: TE012921044

#### **GC Semi VOA (Continued)**

#### Prep Batch: 15385 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-15385/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1740-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1740-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### **Analysis Batch: 15413**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1741-1	PH04	Total/NA	Solid	8015B NM	15385
MB 880-15385/1-A	Method Blank	Total/NA	Solid	8015B NM	15385
LCS 880-15385/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15385
LCSD 880-15385/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15385
890-1740-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	15385
890-1740-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	15385

#### **Analysis Batch: 15426**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1741-3	PH04B	Total/NA	Solid	8015B NM	15481
MB 880-15481/1-A	Method Blank	Total/NA	Solid	8015B NM	15481
LCS 880-15481/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15481
LCSD 880-15481/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15481
880-9652-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	15481
880-9652-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	15481

#### Prep Batch: 15481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1741-3	PH04B	Total/NA	Solid	8015NM Prep	
MB 880-15481/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15481/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-15481/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-9652-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-9652-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### **Analysis Batch: 15674**

<b>Lab Sample ID</b> 890-1741-1	Client Sample ID PH04	Prep Type Total/NA	Matrix Solid	Method 8015 NM	Prep Batch
890-1741-2	PH04A	Total/NA	Solid	8015 NM	
890-1741-3	PH04B	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 15278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1741-1	PH04	Soluble	Solid	DI Leach	
890-1741-2	PH04A	Soluble	Solid	DI Leach	
890-1741-3	PH04B	Soluble	Solid	DI Leach	
MB 880-15278/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15278/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15278/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1740-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1740-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-1743-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1743-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Job ID: 890-1741-1 Client: WSP USA Inc. Project/Site: BEU 29 W VADER 100H

SDG: TE012921044

#### HPLC/IC

#### **Analysis Batch: 15401**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1741-1	PH04	Soluble	Solid	300.0	15278
890-1741-2	PH04A	Soluble	Solid	300.0	15278
890-1741-3	PH04B	Soluble	Solid	300.0	15278
MB 880-15278/1-A	Method Blank	Soluble	Solid	300.0	15278
LCS 880-15278/2-A	Lab Control Sample	Soluble	Solid	300.0	15278
LCSD 880-15278/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15278
890-1740-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	15278
890-1740-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15278
890-1743-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	15278
890-1743-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300 0	15278

Client: WSP USA Inc.

Project/Site: BEU 29 W VADER 100H

Job ID: 890-1741-1

SDG: TE012921044

Client Sample ID: PH04

Lab Sample ID: 890-1741-1

Matrix: Solid

Date Collected: 12/17/21 10:32 Date Received: 12/20/21 15:24

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 18:50	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/23/21 19:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15385	12/22/21 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15413	12/23/21 22:57	AJ	XEN MID
Soluble	Leach	DI Leach			15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		1	15401	12/22/21 10:50	SC	XEN MID

Lab Sample ID: 890-1741-2

Metrix Colid

Matrix: Solid

Client Sample ID: PH04A Date Collected: 12/17/21 10:45

Date Received: 12/20/21 15:24

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 19:11	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/23/21 19:53	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15317	12/22/21 09:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15328	12/22/21 21:17	AJ	XEN MID
Soluble	Leach	DI Leach			15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		10	15401	12/22/21 10:58	SC	XEN MID

Client Sample ID: PH04B

Date Collected: 12/17/21 10:54

Lab Sample ID: 890-1741-3

Matrix: Solid

Date Received: 12/20/21 15:24

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 19:31	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/28/21 08:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15481	12/23/21 14:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15426	12/24/21 23:39	AJ	XEN MID
Soluble	Leach	DI Leach			15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		10	15401	12/22/21 11:07	SC	XEN MID

Laboratory References:

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

**Eurofins Carlsbad** 

9

10

12

14

onno Ganoba

#### **Accreditation/Certification Summary**

 Client: WSP USA Inc.
 Job ID: 890-1741-1

 Project/Site: BEU 29 W VADER 100H
 SDG: TE012921044

#### **Laboratory: Eurofins Midland**

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

Authority	Pr	rogram	Identification Number	Expiration Date
Texas	NI	ELAP	T104704400-21-22	06-30-22
The following applyto	o are included in this ren	art but the laboratory is r	and portified by the governing outbority	This list may include analytes for
	•	ort, but the laboratory is i	not certified by the governing authority.	This list may include analytes for
the agency does not o	offer certification.	•	, , ,	This list may include analytes for
	•	Matrix	Analyte	This list may include analytes for
the agency does not o	offer certification.	•	, , ,	This list may include analytes for

4

5

8

10

11

13

#### **Method Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W VADER 100H

Job ID: 890-1741-1

SDG: TE012921044

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
3015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
0.00	Anions, Ion Chromatography	MCAWW	XEN MID
035	Closed System Purge and Trap	SW846	XEN MID
015NM Prep	Microextraction	SW846	XEN MID
I Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

#### **Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

#### **Sample Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W VADER 100H

Job ID: 890-1741-1

SDG: TE012921044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1741-1	PH04	Solid	12/17/21 10:32	12/20/21 15:24	2
890-1741-2	PH04A	Solid	12/17/21 10:45	12/20/21 15:24	4
890-1741-3	PH04B	Solid	12/17/21 10:54	12/20/21 15:24	6

# 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

Revised Date 051418 Rev. 2018 1		6				G
		4		~		(
	4	12811634	0	CP (1)	in ()	
Received by: (Signature) Date/Time	Relinquished by: (Signature)	Date/Time	gnature)	Received by: (Signature)	(Signature)	Relinquished by: (Signature)
s beyond the control sly negotiated.	of Service. 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.	bmitted to Xenco, but not ana	any responsibility for any ge of \$5 for each sample s	samples constitutes at s and shall not assume ach project and a char	scurrent and relinquishment or a sable only for the cost of sample ge of \$75.00 will be applied to a	of Xenco. A minimum cha
ms and conditions	ffiliates and subcontractors. It assigns standard ten	client company to Yenco its at	alid purchase order from	Tamples constitutes a		Notice Circulate and the L
1631 / 245.1 / 7470 /	Share Be Color Color Color Form Mon Ni Se Ag TIU	_	TCLP / SPLP 6010: 8RCRA	α	) and Metal(s) to be ana	Circle Method(s) a
N: V Co Ac		2			Ш	
						\
			6			
		12.121	2 / SE			
		× ×	6	12.17.21 10:54	S	PHOG B
			4	12.17.21 (0:45	S	PHOCA
		- × ×	2	12.17.21 10:32	S	2HBG6
Sample Comments		Numb TPH (E BTEX (	Depth	Date Time Sampled Sampled	fication Matrix	Sample Identification
ab, if received by 4:30pm		PA 8		Total Containers:	Yes No HMA	Sample Custody Seals
TAT starts the day recevied by the	_	015) 0=8	300	Correction Factor:	Yes No (NIA)	Cooler Custody Seals:
	890-1741 Chain of Custody	021)	11	- W MI		Received Intact:
			(	Thermometer ID	40/3.8	Temperature (°C):
			Wet Ice: Yes No	8	PT Temp Blank: (Yes)	SAMPLE RECEIPT
API 30-025-46515			Due Date:		Gilbert Moreno	Sampler's Name:
FE DD 2017 04139 CAP CNP 01			Rush:			P.O. Number:
GC 1568221001			Routine		TE012921044	Project Number:
1	ANALYSIS REQUEST		Turn Around		BEU 29W Vader 100H	Project Name:
11	Adrian.Baker@exxonmobil.com Deliverables: EDD	1 11	Gilbert.Moreno@wsp.com,	é	817-683-2503	Phone
Levelli PST/UST PRRPevelly		Carlsbad, NM 88220	City, State ZIP:		Midland, TX 79705	City, State ZIP:
		3104 E Green Street	Address:		3300 North A Street	Address:
Program: UST/PST PRP Brownfields RRC Superfund	Program: U	XTO Energy	Company Name:		WSP	Company Name:
)   		Adrian Baker	: (if different)		Kalei Jennings	Project Manager
www.xenco.com raye of	Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)	Z (480-355-0900) Atlanta, G/	'5-392-7550) Phoenix,A	Hobbs, NM (57		

#### **Login Sample Receipt Checklist**

Client: WSP USA Inc. Job Number: 890-1741-1 SDG Number: TE012921044

Login Number: 1741 **List Source: Eurofins Carlsbad** 

List Number: 1 Creator: Clifton, Cloe

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: 890-1741-1

SDG Number: TE012921044

Login Number: 1741 List Source: Eurofins Midland
List Number: 2 List Creation: 12/21/21 02:08 PM

Creator: Rodriguez, Leticia

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

<6mm (1/4").

#### **Environment Testing America**

#### **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1742-1

Laboratory Sample Delivery Group: TE012921044

Client Project/Site: BEU 29W VADER 100H

Revision: 1

For:

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

Attn: Kalei Jennings

RAMER

Authorized for release by: 3/25/2022 1:59:04 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

.....LINKS .....

**Review your project** results through

**Have a Question?** 



Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 7/6/2022 2:44:10 PM

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.

Laboratory Job ID: 890-1742-1

Project/Site: BEU 29W VADER 100H

SDG: TE012921044

### **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receint Checklists	20

2

3

4

6

ð

10

12

13

# **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-1742-1 Project/Site: BEU 29W VADER 100H

SDG: TE012921044

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** Qualifier

**Qualifier Description** \*1 LCS/LCSD RPD exceeds control limits.

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

**HPLC/IC** 

Qualifier **Qualifier Description** 

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

Duplicate Error Ratio (normalized absolute difference) **DER** 

Dil Fac **Dilution Factor** 

Detection Limit (DoD/DOE) DL

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) Minimum Detectable Concentration (Radiochemistry) MDC

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

**Practical Quantitation Limit PQL** 

**PRES** Presumptive QC **Quality Control** 

**RER** Relative Error Ratio (Radiochemistry)

RI 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.

Job ID: 890-1742-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

Job ID: 890-1742-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-1742-1

#### REVISION

The report being provided is a revision of the original report sent on 12/28/2021. The report (revision 1) is being revised due to Per client email requesting sample ID change.

Report revision history

#### Receipt

The samples were received on 12/20/2021 3:24 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.8°C

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 880-15385 and analytical batch 880-15413 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10

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.

**Matrix: Solid** 

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1742-1 SDG: TE012921044

Lab Sample ID: 890-1742-1

**Client Sample ID: PH02** 

Date Collected: 12/17/21 09:12 Date Received: 12/20/21 15:24

Sample Depth: 2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 19:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 19:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 19:51	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 19:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 19:51	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 19:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130			12/22/21 10:08	12/22/21 19:51	1
1,4-Difluorobenzene (Surr)	80		70 - 130			12/22/21 10:08	12/22/21 19:51	1
Method: Total BTEX - Total	I BTEX Calcula	tion						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	<0.00399		0.00399	mg/Kg			12/28/21 08:41	

Method: 8015 NM - Diesel Ran	ge Organics (DRO)	(GC)					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8 U	49.8	mg/Kg			12/28/21 17:22	1
Method: 8015B NM - Diesel Ra	nge Organics (DRC	O) (GC)					

Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<49.8	U *1	49.8	mg/Kg		12/22/21 14:29	12/23/21 23:17	1
<49.8	U	49.8	mg/Kg		12/22/21 14:29	12/23/21 23:17	1
<49.8	U	49.8	mg/Kg		12/22/21 14:29	12/23/21 23:17	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
106		70 - 130			12/22/21 14:29	12/23/21 23:17	1
124		70 - 130			12/22/21 14:29	12/23/21 23:17	1
	<49.8 <49.8 <49.8 <b>%Recovery</b>		<49.8	<49.8	<49.8	<49.8	<49.8

Method: 300.0 - Anions, Ion Cr	nromatography - Solub	le					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1170	50.4	mg/Kg			12/22/21 11:15	10

**Client Sample ID: PH02A** Lab Sample ID: 890-1742-2 Date Collected: 12/17/21 09:20 Date Received: 12/20/21 15:24

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/22/21 10:08	12/22/21 20:12	1
Toluene	<0.00202	U	0.00202	mg/Kg		12/22/21 10:08	12/22/21 20:12	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		12/22/21 10:08	12/22/21 20:12	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		12/22/21 10:08	12/22/21 20:12	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		12/22/21 10:08	12/22/21 20:12	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		12/22/21 10:08	12/22/21 20:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			12/22/21 10:08	12/22/21 20:12	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1742-1

Project/Site: BEU 29W VADER 100H SDG: TE012921044

**Client Sample ID: PH02A** Lab Sample ID: 890-1742-2 Date Collected: 12/17/21 09:20 **Matrix: Solid** 

Date Received: 12/20/21 15:24

Sample Depth: 4

Surrogate	%Recovery Qualifier	Limits	Prepared Analyzed	Dil Fac
1.4-Difluorobenzene (Surr)	73	70 - 130	12/22/21 10:08 12/22/21 20:12	1

#### **Method: Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00403	U	0.00403	mg/Kg			12/28/21 08:41	1

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

Analyte	F	esult	Qualifier	RL	Un	it D	Pre	epared	Analyzed	Dil Fac
Total TP	Н	<49.9	U	49.9	mg	/Kg			12/28/21 17:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9	mg/Kg		12/22/21 14:29	12/23/21 23:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/22/21 14:29	12/23/21 23:37	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/22/21 14:29	12/23/21 23:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100	70 - 130	12/22/21 14:2	9 12/23/21 23:37	1
o-Terphenyl	118	70 - 130	12/22/21 14:2	9 12/23/21 23:37	1

# Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1760		49.9	mg/Kg			12/22/21 12:00	10

**Client Sample ID: PH02B** Lab Sample ID: 890-1742-3 **Matrix: Solid** 

Date Collected: 12/17/21 09:20 Date Received: 12/20/21 15:24

Sample Depth: 6

Mothod: 9021B	Volatile	Organic	Compounds	(CC)

Welliou. Ouz ID - Volatile O	rgariic Compo	ulius (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 20:32	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 20:32	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 20:32	1
m-Xylene & p-Xylene	< 0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 20:32	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/21 10:08	12/22/21 20:32	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/22/21 10:08	12/22/21 20:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130			12/22/21 10:08	12/22/21 20:32	1
1 4-Difluorobenzene (Surr)	108		70 - 130			12/22/21 10:08	12/22/21 20:32	1

lothod:	Total	DTEV	Total	DTEV	Calculation	n

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

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

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

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1742-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

Lab Sample ID: 890-1742-3 **Client Sample ID: PH02B** Date Collected: 12/17/21 09:20 **Matrix: Solid** Date Received: 12/20/21 15:24

Sample Depth: 6

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0	mg/Kg		12/22/21 14:29	12/23/21 23:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 23:57	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/22/21 14:29	12/23/21 23:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130			12/22/21 14:29	12/23/21 23:57	1
o-Terphenyl	120		70 - 130			12/22/21 14:29	12/23/21 23:57	1
-	`hromatogra	phy - Solu	ıble					
Method: 300.0 - Anions, Ion C	illi Ollia logi a	p,						
Method: 300.0 - Anions, Ion C Analyte	_	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

# **Surrogate Summary**

Client: WSP USA Inc. Job ID: 890-1742-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

Method: 8021B - Volatile Organic Compounds (GC)

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

			Perc	ent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1739-A-1-B MS	Matrix Spike	126	80	
890-1739-A-1-C MSD	Matrix Spike Duplicate	117	80	
890-1742-1	PH02	129	80	
890-1742-2	PH02A	115	73	
890-1742-3	PH02B	123	108	
LCS 880-15329/1-A	Lab Control Sample	107	107	
LCSD 880-15329/2-A	Lab Control Sample Dup	106	105	
MB 880-15329/5-A	Method Blank	104	100	

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)							
		1CO1	OTPH1						
Lab Sample ID	Client Sample ID	(70-130)	(70-130)						
890-1740-A-1-D MS	Matrix Spike	96	97						
890-1740-A-1-E MSD	Matrix Spike Duplicate	94	96						
890-1742-1	PH02	106	124						
890-1742-2	PH02A	100	118						
890-1742-3	PH02B	100	120						
LCS 880-15385/2-A	Lab Control Sample	116	125						
LCSD 880-15385/3-A	Lab Control Sample Dup	98	109						
MB 880-15385/1-A	Method Blank	152 S1+	177 S1+						

**Surrogate Legend** 

1CO = 1-Chlorooctane OTPH = o-Terphenyl

# **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1742-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-15329/5-A

**Matrix: Solid** 

**Analysis Batch: 15330** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Batch: 15329

	MB M	MR						
Analyte	Result C	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200 U	J	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Toluene	<0.00200 L	J	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Ethylbenzene	<0.00200 L	J	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
m-Xylene & p-Xylene	<0.00400 L	j	0.00400	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
o-Xylene	<0.00200 L	J	0.00200	mg/Kg		12/22/21 10:08	12/22/21 13:22	1
Xylenes, Total	<0.00400 L	J	0.00400	mg/Kg		12/22/21 10:08	12/22/21 13:22	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	12/22/21 10:08	12/22/21 13:22	1
1,4-Difluorobenzene (Surr)	100		70 - 130	12/22/21 10:08	12/22/21 13:22	1

Lab Sample ID: LCS 880-15329/1-A

**Matrix: Solid** 

**Analysis Batch: 15330** 

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** Prep Batch: 15329

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Benzene 70 - 130 0.100 0.09632 mg/Kg 96 Toluene 0.100 0.08900 mg/Kg 89 70 - 130 Ethylbenzene 0.100 0.08828 mg/Kg 88 70 - 130 m-Xylene & p-Xylene 0.200 91 0.1813 mg/Kg 70 - 130 o-Xylene 0.100 0.08868 mg/Kg 70 - 130

LCS LCS

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

Lab Sample ID: LCSD 880-15329/2-A

**Matrix: Solid** 

**Analysis Batch: 15330** 

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

Prep Batch: 15329

	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.09431		mg/Kg		94	70 - 130	2	35	
Toluene	0.100	0.08655		mg/Kg		87	70 - 130	3	35	
Ethylbenzene	0.100	0.08460		mg/Kg		85	70 - 130	4	35	
m-Xylene & p-Xylene	0.200	0.1728		mg/Kg		86	70 - 130	5	35	
o-Xylene	0.100	0.08727		mg/Kg		87	70 - 130	2	35	

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1.4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 890-1739-A-1-B MS

**Matrix: Solid** 

**Analysis Batch: 15330** 

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

Prep Batch: 15329

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.0996	0.07379		mg/Kg		73	70 - 130	
Toluene	<0.00202	U	0.0996	0.09570		mg/Kg		96	70 - 130	

# QC Sample Results

Client: WSP USA Inc. Job ID: 890-1742-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

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

Lab Sample ID: 890-1739-A-1-B MS **Client Sample ID: Matrix Spike Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 15330** Prep Batch: 15329 MS MS %Rec Snike Sample Sample

	Campic	Campic	Opine	14.0	1410				/01 <b>CC</b> .	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00202	U	0.0996	0.1047		mg/Kg		105	70 - 130	
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1996		mg/Kg		100	70 - 130	
o-Xylene	<0.00202	U	0.0996	0.09489		mg/Kg		95	70 - 130	

MS MS Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 126 1,4-Difluorobenzene (Surr) 70 - 130 80

Lab Sample ID: 890-1739-A-1-C MSD **Client Sample ID: Matrix Spike Duplicate** 

**Matrix: Solid** 

**Analysis Batch: 15330** 

Prep Batch: 15329 Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit <0.00202 U 0.0992 0.07689 70 - 130 4 35 Benzene mg/Kg 77 Toluene <0.00202 U 0.0992 0.07955 80 70 - 130 35 mg/Kg 18 Ethylbenzene <0.00202 U 0.0992 0.07982 mg/Kg 80 70 - 130 27 35 m-Xylene & p-Xylene <0.00403 U 0.198 0.1706 86 70 - 130 16 35 mq/Kq <0.00202 U 0.0992 83 o-Xylene 0.08304 mg/Kg 70 - 13013

MSD MSD Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 117 1,4-Difluorobenzene (Surr) 80 70 - 130

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

Lab Sample ID: MB 880-15385/1-A **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 15413** Prep Batch: 15385

MB MB Analyte Result Qualifier RL Unit **Prepared** Analyzed Dil Fac <50.0 U 50.0 12/22/21 14:29 12/23/21 20:18 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 50.0 12/22/21 14:29 12/23/21 20:18 mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 mg/Kg 12/22/21 14:29 12/23/21 20:18

MB MB Surrogate %Recovery Qualifier Limits Prepared

Dil Fac Analyzed 12/22/21 14:29 12/23/21 20:18 1-Chlorooctane 152 S1+ 70 - 130 70 - 130 12/22/21 14:29 12/23/21 20:18 o-Terphenyl 177 S1+

Lab Sample ID: LCS 880-15385/2-A **Client Sample ID: Lab Control Sample** 

**Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 15413** Prep Batch: 15385 Spike LCS LCS %Rec.

	~ p						,	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	869.0		mg/Kg		87	70 - 130	 ,
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	826.1		mg/Kg		83	70 - 130	
C10-C28)								

**Eurofins Carlsbad** 

Prep Type: Total/NA

Client: WSP USA Inc. Job ID: 890-1742-1 Project/Site: BEU 29W VADER 100H SDG: TE012921044

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

Lab Sample ID: LCS 880-15385/2-A

**Matrix: Solid** 

**Analysis Batch: 15413** 

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

Prep Batch: 15385

LCS LCS %Recovery Qualifier Limits Surrogate 1-Chlorooctane 116 70 - 130 o-Terphenyl 125 70 - 130

Lab Sample ID: LCSD 880-15385/3-A

Lab Sample ID: 890-1740-A-1-D MS

**Matrix: Solid** 

**Analysis Batch: 15413** 

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

Prep Batch: 15385

LCSD LCSD RPD %Rec. Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics 1000 1239 \*1 mg/Kg 124 70 - 130 35 20 (GRO)-C6-C10 Diesel Range Organics (Over 1000 776.5 mg/Kg 78 70 - 130 6 20 C10-C28)

LCSD LCSD

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

**Client Sample ID: Matrix Spike** 

**Prep Type: Total/NA** 

Prep Batch: 15385

	Sample S	Sample	Spike	MS	MS				%Rec.
Analyte	Result (	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9 l	U *1	996	1249		mg/Kg		121	70 - 130
Diesel Range Organics (Over	<49.9 l	U	996	794.6		mg/Kg		75	70 - 130

C10-C28)

**Matrix: Solid** 

**Analysis Batch: 15413** 

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 96 70 - 130 o-Terphenyl 97

Lab Sample ID: 890-1740-A-1-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

**Analysis Batch: 15413** 

Prep Type: Total/NA Prep Batch: 15385

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Limits **RPD** Limit Analyte Unit %Rec Gasoline Range Organics <49.9 U \*1 995 1226 118 70 - 130 2 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 995 777.4 mg/Kg 74 70 - 130 2 20

C10-C28)

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	96		70 - 130

Client: WSP USA Inc. Job ID: 890-1742-1 Project/Site: BEU 29W VADER 100H

SDG: TE012921044

Method: 300.0 - Anions, Ion Chromatography

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

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

**Analysis Batch: 15401** 

Analyte

Chloride

MB MB Result Qualifier RL Unit D Analyzed Dil Fac Prepared 5.00 12/22/21 10:00 <5.00 U mg/Kg

Lab Sample ID: LCS 880-15278/2-A Client Sample ID: Lab Control Sample **Matrix: Solid** 

**Prep Type: Soluble** 

**Analysis Batch: 15401** 

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

Lab Sample ID: LCSD 880-15278/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15401** 

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

Lab Sample ID: 890-1740-A-3-B MS **Client Sample ID: Matrix Spike Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15401** 

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 1260 318 1571 mg/Kg 100 90 - 110

Lab Sample ID: 890-1740-A-3-C MSD **Client Sample ID: Matrix Spike Duplicate Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 15401** 

MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added RPD Result Qualifier Unit %Rec Limits Limit Chloride 1260 1567 99 318 mg/Kg 90 - 110

Lab Sample ID: 890-1743-A-4-B MS

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

**Matrix: Solid** 

**Analysis Batch: 15401** 

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

Lab Sample ID: 890-1743-A-4-C MSD **Client Sample ID: Matrix Spike Duplicate Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 15401** 

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

# **QC Association Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1742-1 SDG: TE012921044

# **GC VOA**

# Prep Batch: 15329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1742-1	PH02	Total/NA	Solid	5035	
890-1742-2	PH02A	Total/NA	Solid	5035	
890-1742-3	PH02B	Total/NA	Solid	5035	
MB 880-15329/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-15329/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-15329/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1739-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-1739-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

# **Analysis Batch: 15330**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1742-1	PH02	Total/NA	Solid	8021B	15329
890-1742-2	PH02A	Total/NA	Solid	8021B	15329
890-1742-3	PH02B	Total/NA	Solid	8021B	15329
MB 880-15329/5-A	Method Blank	Total/NA	Solid	8021B	15329
LCS 880-15329/1-A	Lab Control Sample	Total/NA	Solid	8021B	15329
LCSD 880-15329/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	15329
890-1739-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	15329
890-1739-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	15329

# **Analysis Batch: 15505**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1742-1	PH02	Total/NA	Solid	Total BTEX	
890-1742-2	PH02A	Total/NA	Solid	Total BTEX	
890-1742-3	PH02B	Total/NA	Solid	Total BTEX	

# **GC Semi VOA**

# Prep Batch: 15385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1742-1	PH02	Total/NA	Solid	8015NM Prep	
890-1742-2	PH02A	Total/NA	Solid	8015NM Prep	
890-1742-3	PH02B	Total/NA	Solid	8015NM Prep	
MB 880-15385/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-15385/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-15385/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1740-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1740-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

# **Analysis Batch: 15413**

Released to Imaging: 7/6/2022 2:44:10 PM

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1742-1	PH02	Total/NA	Solid	8015B NM	15385
890-1742-2	PH02A	Total/NA	Solid	8015B NM	15385
890-1742-3	PH02B	Total/NA	Solid	8015B NM	15385
MB 880-15385/1-A	Method Blank	Total/NA	Solid	8015B NM	15385
LCS 880-15385/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	15385
LCSD 880-15385/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	15385
890-1740-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	15385
890-1740-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	15385

# **QC Association Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1742-1

# SDG: TE012921044

# GC Semi VOA

# **Analysis Batch: 15674**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1742-1	PH02	Total/NA	Solid	8015 NM	
890-1742-2	PH02A	Total/NA	Solid	8015 NM	
890-1742-3	PH02B	Total/NA	Solid	8015 NM	

#### **HPLC/IC**

#### Leach Batch: 15278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1742-1	PH02	Soluble	Solid	DI Leach	
890-1742-2	PH02A	Soluble	Solid	DI Leach	
890-1742-3	PH02B	Soluble	Solid	DI Leach	
MB 880-15278/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-15278/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-15278/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1740-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1740-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-1743-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1743-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

# **Analysis Batch: 15401**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1742-1	PH02	Soluble	Solid	300.0	15278
890-1742-2	PH02A	Soluble	Solid	300.0	15278
890-1742-3	PH02B	Soluble	Solid	300.0	15278
MB 880-15278/1-A	Method Blank	Soluble	Solid	300.0	15278
LCS 880-15278/2-A	Lab Control Sample	Soluble	Solid	300.0	15278
LCSD 880-15278/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	15278
890-1740-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	15278
890-1740-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15278
890-1743-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	15278
890-1743-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	15278

SDG: TE012921044

**Client Sample ID: PH02** 

Lab Sample ID: 890-1742-1

Date Collected: 12/17/21 09:12 Date Received: 12/20/21 15:24

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 19:51	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/28/21 08:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15385	12/22/21 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15413	12/23/21 23:17	AJ	XEN MID
Soluble	Leach	DI Leach			15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		10	15401	12/22/21 11:15	SC	XEN MID

Lab Sample ID: 890-1742-2

**Client Sample ID: PH02A** Date Collected: 12/17/21 09:20

**Matrix: Solid** 

Date Received: 12/20/21 15:24

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 20:12	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/28/21 08:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15385	12/22/21 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15413	12/23/21 23:37	AJ	XEN MID
Soluble	Leach	DI Leach			15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		10	15401	12/22/21 12:00	SC	XEN MID

Lab Sample ID: 890-1742-3 **Client Sample ID: PH02B** Date Collected: 12/17/21 09:20

Date Received: 12/20/21 15:24

**Matrix: Solid** 

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			15329	12/22/21 10:08	MR	XEN MID
Total/NA	Analysis	8021B		1	15330	12/22/21 20:32	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	15505	12/28/21 08:41	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	15674	12/28/21 17:22	AJ	XEN MID
Total/NA	Prep	8015NM Prep			15385	12/22/21 14:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1	15413	12/23/21 23:57	AJ	XEN MID
Soluble	Leach	DI Leach			15278	12/21/21 15:12	CA	XEN MID
Soluble	Analysis	300.0		5	15401	12/22/21 12:10	SC	XEN MID

**Laboratory References:** 

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

# **Accreditation/Certification Summary**

 Client: WSP USA Inc.
 Job ID: 890-1742-1

 Project/Site: BEU 29W VADER 100H
 SDG: TE012921044

# **Laboratory: Eurofins Midland**

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

Authority	Pr	rogram	Identification Number	Expiration Date
Texas	NI	ELAP	T104704400-21-22	06-30-22
The following applyto	o are included in this ren	art but the laboratory is r	and portified by the governing outbority	This list may include analytes for
	•	ort, but the laboratory is i	not certified by the governing authority.	This list may include analytes for
the agency does not o	offer certification.	•	, , ,	This list may include analytes for
	•	Matrix	Analyte	This list may include analytes for
the agency does not o	offer certification.	•	, , ,	This list may include analytes for

4

5

\_

8

10

12

13

12

# **Method Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1742-1

SDG: TE012921044

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

#### **Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

**Eurofins Carlsbad** 

1

2

Л

5

7

10

10

13

Ш

# **Sample Summary**

Client: WSP USA Inc.

Project/Site: BEU 29W VADER 100H

Job ID: 890-1742-1

SDG: TE012921044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Dept
890-1742-1	PH02	Solid	12/17/21 09:12	12/20/21 15:24	2
890-1742-2	PH02A	Solid	12/17/21 09:20	12/20/21 15:24	4
890-1742-3	PH02B	Solid	12/17/21 09:20	12/20/21 15:24	6

2000

1534

City, State ZIP:

Midland, TX 79705 3300 North A Street

City, State ZIP:

Carlsbad, NM 88220

Deliverables: EDD ...

ADaPT -

Other:

PRRP □evel IV

ddress:

Company Name:

WSP

13

# Kalei Jennings Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000) 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 Chain of Custody

Company Name: : (if different) Adrian Baker 3104 E Green Street XTO Energy Program: UST/PST □PRP □Brownfields Reporting:Level III Level III Level IIII State of Project:

Phone	817-683-2503			Email	Gilbert.More	w@one	sp.con	n, Adr	ian.Ba	Gilbert.Moreno@wsp.com, Adrian.Baker@exxonmobil.com	Deliverables. CDD	AUAFI	
Project Name:	BEU 29W Vader 100H	100H		Tu	Turn Around					ANALYSIS REQUEST	JEST	8	Work Order Notes
Project Number:	TE012921044			Rout	Routine							CC 15	1568221001
P.O. Number:				Rush								AFE DO	NEE DD 2017 04339 CAP CMP 01
Sampler's Name:	Gilbert Moreno			Due Date	Date:							API 30	API 30-025-46515
SAMPLE RECEIPT		Temp Blank:	(es No	Wet Ice: Yes	Yes No	;							
Temperature (°C):	1/Q/F	S X	(	Thermometer ID	D	ners			)				
Received Intact:	(Yes)	No	1	30- ww	400	ntai		21)	00.0	890-1742 Ch	742 Chain of Custody		
Cooler Custody Seals	Υ.	(N/A)	Corre	Correction Factor:	-0.2	Co	15)	)=80	A 3	-	-	TAT st	TAT starts the day recevied by the
Sample Custody Seals	L	NIA	Total	Total Containers:		er of	PA 80	EPA (	e (EF			lab	L
Sample Identification	tification	Matrix	Date Sampled	Time Sampled	Depth	Numbe	TPH (EI	BTEX (	Chlorid			S	Sample Comments 9
PH OH		S	12.17.21	09:12	2		×	×	×				
PHOYA	4	S	12.17.21	09:20	4	_	×	×	×				
PHO4 B	3	S	12.17.21	04:28	6		×	×	×				
									_				
						12	4	21	1				
			>	JON.	d		$\prod$		1				
			Ji.	1	1		_						
Total 200.7 / 6010 Circle Method(s) a	otal 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	<b>)20:</b> o be ana	_ ∞	8RCRA 13PPM TCLP/SPLP6	TCLP / SPLP 6010: 8RCRA	- 1	Sb As Sb As	Ba -	Be B Be Cd	B Cd Ca Cr Co Cu Fe Pb Mg Mn Cd Cr Co Cu Pb Mn Mo Ni Se Ag	Pb Mg Mn Mo Ni K Se Ag Ni Se Ag Tl U	SiO2	Na Sr Ti Sn U V Zn 1631 / 245.1 / 7470 / 7471 : Hg
Notice: Signature of this c of service. Xenco will be of Xenco. A minimum cha	document and relingu liable only for the cos arge of \$75.00 will be	shment of t of sample applied to	samples const	itutes a valid put t assume any re	rchase order fro sponsibility for 5 for each sampl	om client any losse e submit	company s or expo	/ to Xend enses in nco, but	o, its aff curred b	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 condition 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 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 cost of samples and shall not assume the cost of samples and samples are cost of samples and samples are cost of samples and samples and samples are cost of samples and samples are c	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)	(Signature)		Received	Received by: (Signature)	re)		Date/Time	Time		Relinquished by: (Signature)	ature) Received by: (Signature)	(Signature)	Date/Time

Work Order No:

www.xenco.com

Page

으

**Work Order Comments** 

**利** 

Superfund

Revised Date 051418 Rev. 2018 1

3/25/2022 (Rev. 1)

# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-1742-1
SDG Number: TE012921044

Login Number: 1742 List Source: Eurofins Carlsbad

List Number: 1 Creator: Clifton, Cloe

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	

120 oj 200

# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-1742-1

SDG Number: TE012921044

Login Number: 1742
List Source: Eurofins Midland
List Number: 2
List Creation: 12/21/21 02:08 PM

Creator: Rodriguez, Leticia

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

Page 21 of 21 3/25/2022 (Rev. 1)

,55

3

3

4

6

8

10

12

13

14

<6mm (1/4").

# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2106-1

Laboratory Sample Delivery Group: TE01291044 Client Project/Site: BEU 29 W Vedar 100H

For:

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

Attn: Kalei Jennings

SKRAMER

Authorized for release by: 3/28/2022 2:27:45 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

LINKS .....

Review your project results through

IOIOIACCESS

Have a Question?



Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 7/6/2022 2:44:10 PM

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.

1

\_

3

6

<u>/</u>

9

1 4

12

13

Client: WSP USA Inc. Laboratory Job ID: 890-2106-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

# **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	14
Lab Chronicle	16
Certification Summary	18
Method Summary	19
Sample Summary	20
Chain of Custody	21
Receipt Checklists	23

# **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-2106-1 Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

#### **Qualifiers**

**GC VOA** Qualifier

**Qualifier Description** F1 MS and/or MSD recovery exceeds control limits.

F2 MS/MSD RPD exceeds control limits

Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

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

**HPLC/IC** 

Qualifier **Qualifier Description** 

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

DFR 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

Decision Level Concentration (Radiochemistry) DLC

**EDL** Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level" MCL MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

Method Detection Limit MDL 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

Toxicity Equivalent Factor (Dioxin) TEF Toxicity Equivalent Quotient (Dioxin) TEQ

**TNTC** Too Numerous To Count

#### **Case Narrative**

Client: WSP USA Inc.

Job ID: 890-2106-1

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

Job ID: 890-2106-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2106-1

#### Receipt

The samples were received on 3/18/2022 1:03 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 0.6°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

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.

233

2

3

3

4

6

<del>-</del>

8

9

10

12

13

14

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-2106-1

Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

**Client Sample ID: PH08** Lab Sample ID: 890-2106-1 Date Collected: 03/17/22 09:45 Matrix: Solid Date Received: 03/18/22 13:03

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F2 F1	0.00199	mg/Kg		03/24/22 10:00	03/26/22 05:16	1
Toluene	<0.00199	U F2 F1	0.00199	mg/Kg		03/24/22 10:00	03/26/22 05:16	1
Ethylbenzene	<0.00199	U F2 F1	0.00199	mg/Kg		03/24/22 10:00	03/26/22 05:16	1
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.00398	mg/Kg		03/24/22 10:00	03/26/22 05:16	1
o-Xylene	<0.00199	U F2 F1	0.00199	mg/Kg		03/24/22 10:00	03/26/22 05:16	1
Xylenes, Total	<0.00398	U F2 F1	0.00398	mg/Kg		03/24/22 10:00	03/26/22 05:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			03/24/22 10:00	03/26/22 05:16	1
1,4-Difluorobenzene (Surr)	106		70 - 130			03/24/22 10:00	03/26/22 05:16	1
Method: Total BTEX - Total BTE	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/28/22 12:32	1
Method: 8015 NM - Diesel Range Analyte	•	O) (GC) Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/22/22 10:41	1
Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 16:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 16:48	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 16:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
	83		70 - 130			03/21/22 09:09	03/21/22 16:48	1
1-Chlorooctane	• • • • • • • • • • • • • • • • • • • •							
1-Chlorooctane o-Terphenyl	98		70 - 130			03/21/22 09:09	03/21/22 16:48	1
	98	Soluble	70 - 130			03/21/22 09:09	03/21/22 16:48	1
o-Terphenyl	98 omatography -	Soluble Qualifier	70 <sub>-</sub> 130 RL	Unit	D	03/21/22 09:09  Prepared	03/21/22 16:48  Analyzed	1 Dil Fac

Client Sample ID: PH08A Lab Sample ID: 890-2106-2

Date Collected: 03/17/22 10:00 Date Received: 03/18/22 13:03

Sample Depth: 3

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 11:53	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 11:53	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 11:53	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		03/24/22 10:00	03/26/22 11:53	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 11:53	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		03/24/22 10:00	03/26/22 11:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			03/24/22 10:00	03/26/22 11:53	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

Released to Imaging: 7/6/2022 2:44:10 PM

Matrix: Solid

Lab Sample ID: 890-2106-2

Client: WSP USA Inc. Job ID: 890-2106-1

Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

Client Sample ID: PH08A

Date Collected: 03/17/22 10:00 Date Received: 03/18/22 13:03

Sample Depth: 3

Method: 8021B -	Volatile Ord	anic Com	nounds (C	GC) (	(Continued)	
Method. 002 1D	Volatile Oit		poullus (C	30) I	(Continueu)	

Surrogate	%Recovery Qua	alifier Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	97	70 - 130	03/24/22 10:00	03/26/22 11:53	1

Method: To	ntal RTFY.	Total BTEX	Calculation
mictilou. It	Jiai Di La	TOTAL DIEX	Odiculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			03/28/22 12:32	1

Method: 801	5 NM - Diesel	Range Organics	e (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/22/22 10:41	1

Method: 8015B	NM - Diesel	Range Ord	anics	(DRO)	(GC)
motilioa. oo lob	THE DIGGGE	Trainge Oit	garnos	(5.10)	100)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 17:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 17:09	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 17:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Pro	epared	Analyzed	DII Fac
1-Chlorooctane	87		70 - 130	03/21	1/22 09:09	03/21/22 17:09	1
o-Terphenyl	106		70 - 130	03/21	1/22 09:09	03/21/22 17:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.2		4.99	mg/Kg			03/25/22 22:50	1

Client Sample ID: PH08B Lab Sample ID: 890-2106-3 Matrix: Solid

Date Collected: 03/17/22 10:40 Date Received: 03/18/22 13:03

Sample Depth: 6

Mothod: 9021D	Volatila Organia	Compounds (GC)
I WIELIIOU. OUZ ID '	• voiatile Organic	Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		03/24/22 10:00	03/26/22 12:14	1
Toluene	<0.00202	U	0.00202	mg/Kg		03/24/22 10:00	03/26/22 12:14	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		03/24/22 10:00	03/26/22 12:14	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		03/24/22 10:00	03/26/22 12:14	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		03/24/22 10:00	03/26/22 12:14	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		03/24/22 10:00	03/26/22 12:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130			03/24/22 10:00	03/26/22 12:14	1
1,4-Difluorobenzene (Surr)	105		70 - 130			03/24/22 10:00	03/26/22 12:14	1

Mothod:	Total RTEY	- Total RTFY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00403	U	0.00403	ma/Ka			03/28/22 12:32	1

Analyte		Result	Qualifier	RL	Unit	D	Prepared		Dil Fac
Total TPH		<50.0	U	50.0	mg/K			03/22/22 10:41	1

Matrix: Solid

Lab Sample ID: 890-2106-3

Client: WSP USA Inc. Job ID: 890-2106-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

**Client Sample ID: PH08B** 

Date Collected: 03/17/22 10:40 Date Received: 03/18/22 13:03

Sample Depth: 6

Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 17:29	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 17:29	1
C10-C28)								
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 17:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130			03/21/22 09:09	03/21/22 17:29	1
o-Terphenyl	98		70 - 130			03/21/22 09:09	03/21/22 17:29	1
— Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	30.7		4.98	ma/Ka			03/25/22 22:59	1

**Client Sample ID: PH08C** Lab Sample ID: 890-2106-4 Date Collected: 03/17/22 10:50 Matrix: Solid

Date Received: 03/18/22 13:03

Sample Depth: 7

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 12:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 12:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 12:34	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		03/24/22 10:00	03/26/22 12:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 12:34	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/24/22 10:00	03/26/22 12:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			03/24/22 10:00	03/26/22 12:34	1
1,4-Difluorobenzene (Surr)	102		70 - 130			03/24/22 10:00	03/26/22 12:34	1
Method: Total BTEX - Total BTEX	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			03/28/22 12:32	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/22/22 10:41	1
Method: 8015B NM - Diesel Rang	e Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 17:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 17:50	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 17:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130			03/21/22 09:09	03/21/22 17:50	1
o-Terphenyl	108		70 - 130			03/21/22 09:09	03/21/22 17:50	1

**Eurofins Carlsbad** 

3/28/2022

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-2106-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

Lab Sample ID: 890-2106-4 **Client Sample ID: PH08C** Matrix: Solid

Date Collected: 03/17/22 10:50 Date Received: 03/18/22 13:03

Sample Depth: 7

Method: 300.0 - Anions, Ion Chrom	atography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.4		4.95	mg/Kg			03/25/22 23:25	1

# **Surrogate Summary**

Client: WSP USA Inc. Job ID: 890-2106-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
90-2106-1	PH08	106	106	
390-2106-1 MS	PH08	81	78	
390-2106-1 MSD	PH08	105	105	
390-2106-2	PH08A	116	97	
390-2106-3	PH08B	109	105	
390-2106-4	PH08C	105	102	
CS 880-22073/1-A	Lab Control Sample	94	103	
CSD 880-22073/2-A	Lab Control Sample Dup	100	105	
MB 880-22073/5-B	Method Blank	99	100	
MB 880-22332/8	Method Blank	97	100	

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2104-A-3-D MS	Matrix Spike	74	80
890-2104-A-3-E MSD	Matrix Spike Duplicate	76	82
890-2106-1	PH08	83	98
890-2106-2	PH08A	87	106
890-2106-3	PH08B	81	98
890-2106-4	PH08C	86	108

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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

Matrix: Solid Prep Type: Total/NA

				Demont Comments Description (Assessment Limite)
				Percent Surrogate Recovery (Acceptance Limits)
		1CO2	OTPH2	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
LCS 880-21982/2-A	Lab Control Sample	94	111	
LCSD 880-21982/3-A	Lab Control Sample Dup	96	116	
MB 880-21982/1-A	Method Blank	85	105	
Surrogate Legend				
1CO = 1-Chlorooctane				
OTPH = o-Terphenyl				

Client: WSP USA Inc. Job ID: 890-2106-1 SDG: TE01291044 Project/Site: BEU 29 W Vedar 100H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-22073/5-B

Lab Sample ID: LCS 880-22073/1-A

**Matrix: Solid** 

Analysis Batch: 22332

**Matrix: Solid** Analysis Batch: 22332

MR MR

Client	Sample	ID:	Method	Blank

Prep Type: Total/NA

Prep Batch: 22073

	141.0	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 04:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 04:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 04:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/24/22 10:00	03/26/22 04:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/24/22 10:00	03/26/22 04:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/24/22 10:00	03/26/22 04:47	1

MB MB

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	_	03/24/22 10:00	03/26/22 04:47	1
1,4-Difluorobenzene (Surr)	100		70 - 130		03/24/22 10:00	03/26/22 04:47	1

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 22073

Spike LCS LCS Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.07627 mg/Kg 76 70 - 130 Toluene 0.100 0.07501 mg/Kg 75 70 - 130 0.100 0.07727 77 Ethylbenzene mg/Kg 70 - 130 m-Xylene & p-Xylene 0.200 0.1770 70 - 130 mg/Kg 89 0.100 0.08902 70 - 130 o-Xylene mg/Kg

LCS LCS

Surrogate	%Recovery Qualif	ier Limits
4-Bromofluorobenzene (Surr)	94	70 - 130
1,4-Difluorobenzene (Surr)	103	70 - 130

**Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

Analysis Batch: 22332

Lab Sample ID: LCSD 880-22073/2-A

Prep Type: Total/NA Prep Batch: 22073

	<b>Spike</b>	LCSD	LC2D				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.08611		mg/Kg		86	70 - 130	12	35	
Toluene	0.100	0.08509		mg/Kg		85	70 - 130	13	35	
Ethylbenzene	0.100	0.08818		mg/Kg		88	70 - 130	13	35	
m-Xylene & p-Xylene	0.200	0.2022		mg/Kg		101	70 - 130	13	35	
o-Xylene	0.100	0.1011		mg/Kg		101	70 - 130	13	35	

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	100	70 - 130
1,4-Difluorobenzene (Surr)	105	70 - 130

Lab Sample ID: 890-2106-1 MS

**Matrix: Solid** 

**Analysis Batch: 22332** 

**Client Sample ID: PH08** Prep Type: Total/NA

Prep Batch: 22073

-	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene	<0.00199	U F2 F1	0.100	0.02974	F1	mg/Kg		30	70 - 130
Toluene	<0.00199	U F2 F1	0.100	0.03585	F1	mg/Kg		36	70 - 130

# QC Sample Results

Job ID: 890-2106-1 Client: WSP USA Inc. Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

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

Lab Sample ID: 890-2106-1 MS **Matrix: Solid** 

**Analysis Batch: 22332** 

**Client Sample ID: PH08** Prep Type: Total/NA

Prep Batch: 22073

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00199	U F2 F1	0.100	0.04098	F1	mg/Kg		41	70 - 130	
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.201	0.1044	F1	mg/Kg		52	70 - 130	
o-Xylene	<0.00199	U F2 F1	0.100	0.04741	F1	mg/Kg		47	70 - 130	

MS MS

Surrogate	%Recovery Qu	alifier Limits	
4-Bromofluorobenzene (Surr)	81	70 - 130	_
1,4-Difluorobenzene (Surr)	78	70 - 130	

Lab Sample ID: 890-2106-1 MSD **Matrix: Solid** 

**Analysis Batch: 22332** 

**Client Sample ID: PH08** Prep Type: Total/NA

Prep Batch: 22073

Sample Sample Spike MSD MSD %Rec. Result Qualifier Added Result Qualifier %Rec Limits RPD Limit Analyte Unit 0.0992 Benzene <0.00199 U F2 F1 0.07852 F2 mg/Kg 79 70 - 130 90 35 Toluene 0.0992 <0.00199 U F2 F1 0.07735 F2 mg/Kg 78 70 - 130 73 35 Ethylbenzene <0.00199 U F2 F1 0.0992 0.07991 F2 mg/Kg 81 70 - 130 64 35 <0.00398 U F2 F1 0.198 0.1900 F2 70 - 130 35 m-Xylene & p-Xylene mg/Kg 96 58 0.0992 0.09568 F2 <0.00199 U F2 F1 96 70 - 130 67 o-Xylene mg/Kg

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: MB 880-22332/8

**Matrix: Solid** 

**Analysis Batch: 22332** 

Client Sample ID: Method Blank Prep Type: Total/NA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			03/25/22 17:11	1
Toluene	<0.00200	U	0.00200	mg/Kg			03/25/22 17:11	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			03/25/22 17:11	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			03/25/22 17:11	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			03/25/22 17:11	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			03/25/22 17:11	1

MB MB

мв мв Result Qualifier

<50.0 U

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97	70 - 130		03/25/22 17:11	1
1,4-Difluorobenzene (Surr)	100	70 - 130		03/25/22 17:11	1

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

Lab Sample ID: MB 880-21982/1-A

**Matrix: Solid** 

**Analysis Batch: 21983** 

Gasoline Range Organics

Client Sample ID: Method Blank Prep Type: Total/NA

Prepared

03/21/22 09:09

Prep Batch: 21982

03/21/22 10:51

(GRO)-C6-C10

**Eurofins Carlsbad** 

Page 11 of 24

RL

50.0

Unit

mg/Kg

Job ID: 890-2106-1 Client: WSP USA Inc. Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

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

Lab Sample ID: MB 880-21982/1-A **Matrix: Solid** 

**Analysis Batch: 21983** 

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 21982

MB MB Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac <50.0 U 50.0 03/21/22 09:09 03/21/22 10:51 Diesel Range Organics (Over mg/Kg C10-C28) 50.0 03/21/22 09:09 03/21/22 10:51 OII Range Organics (Over C28-C36) <50.0 U mg/Kg

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1-Chlorooctane 85 70 - 130 03/21/22 09:09 03/21/22 10:51 105 70 - 130 03/21/22 09:09 03/21/22 10:51 o-Terphenyl

Lab Sample ID: LCS 880-21982/2-A

Analysis Batch: 21983

**Matrix: Solid** 

Analysis Batch: 21983							Prep	Batch: 21982
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	852.9		mg/Kg		85	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	924.6		mg/Kg		92	70 - 130	

C10-C28)

LCS LCS Qualifier Limits Surrogate %Recovery 1-Chlorooctane 70 - 130 94 o-Terphenyl 111 70 - 130

Lab Sample ID: LCSD 880-21982/3-A

**Matrix: Solid** 

Analysis Batch: 21983						Prep Batch: 21				
	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	1000	990.5		mg/Kg		99	70 - 130	15	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	1000	1045		mg/Kg		105	70 - 130	12	20	
C10-C28)										

LCSD LCSD Surrogate %Recovery Qualifier Limits 1-Chlorooctane 96 70 - 130 o-Terphenyl 116 70 - 130

**Analysis Batch: 21983** 

Lab Sample ID: 890-2104-A-3-D MS	Client Sample ID: Matrix Spike
Matrix: Solid	Prep Type: Total/NA

Prep Batch: 21982

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	<49.9	U	998	809.3		mg/Kg		79	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over	<49.9	U F1	998	723.2	F1	mg/Kg		69	70 - 130	
C10-C28)										

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	74		70 - 130
o-Terphenvl	80		70 <sub>-</sub> 130

**Eurofins Carlsbad** 

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Client: WSP USA Inc. Job ID: 890-2106-1 Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

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

82

Lab Sample ID: 890-2104-A-Matrix: Solid Analysis Batch: 21983	-3-E MSD					CI	ient Sa	ample ID	•	oike Dup Type: To Batch:	tal/NA
•	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<49.9	U	999	836.1		mg/Kg		81	70 - 130	3	20
(GRO)-C6-C10											
Diesel Range Organics (Over	<49.9	U F1	999	747.9		mg/Kg		71	70 - 130	3	20
C10-C28)											
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	76		70 - 130								

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

Lab Sample ID: LCSD 880-22263/3-A

Lab Sample ID: 890-2106-1 MS

o-Terphenyl

Chloride

Lab Sample ID: MB 880-222 Matrix: Solid	63/1-A					Client Sa	ample ID: Metho Prep Type:	
Analysis Batch: 22386	MB	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/25/22 19:53	1
L ah Sample ID: I CS 880-22	263/2_A				CI	iont Sample	ID: Lab Control	Sample

70 - 130

Lab Sample ID: LCS 880-22263/2-A			Client Sample ID: Lab Control Sample
Matrix: Solid			Prep Type: Soluble
Analysis Batch: 22386			
	Spike	LCS LCS	%Rec.

	Spike	LUG	LUG				MREC.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	249.9		mg/Kg		100	90 - 110	 -

Matrix: Solid Analysis Batch: 22386							Prep	Type: So	oluble	
•	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	

248.2

mg/Kg

250

Matrix: Solid									Prep	Type: Soluble
Analysis Batch: 22386										
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	193		250	427.7		mg/Kg		94	90 - 110	

Lab Sample ID: 890-2106-1 MSD Matrix: Solid Analysis Batch: 22386									Client Sar Prep	mple ID: Type: S	
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	193		250	427.5		mg/Kg		94	90 - 110	0	20

**Eurofins Carlsbad** 

**Client Sample ID: Lab Control Sample Dup** 

90 - 110

**Client Sample ID: PH08** 

# **QC Association Summary**

Client: WSP USA Inc.

Job ID: 890-2106-1

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

**GC VOA** 

Prep Batch: 22073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
890-2106-1	PH08	Total/NA	Solid	5035	
890-2106-2	PH08A	Total/NA	Solid	5035	
890-2106-3	PH08B	Total/NA	Solid	5035	
890-2106-4	PH08C	Total/NA	Solid	5035	
MB 880-22073/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-22073/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-22073/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2106-1 MS	PH08	Total/NA	Solid	5035	
890-2106-1 MSD	PH08	Total/NA	Solid	5035	

**Analysis Batch: 22332** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2106-1	PH08	Total/NA	Solid	8021B	22073
890-2106-2	PH08A	Total/NA	Solid	8021B	22073
890-2106-3	PH08B	Total/NA	Solid	8021B	22073
890-2106-4	PH08C	Total/NA	Solid	8021B	22073
MB 880-22073/5-B	Method Blank	Total/NA	Solid	8021B	22073
MB 880-22332/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-22073/1-A	Lab Control Sample	Total/NA	Solid	8021B	22073
LCSD 880-22073/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	22073
890-2106-1 MS	PH08	Total/NA	Solid	8021B	22073
890-2106-1 MSD	PH08	Total/NA	Solid	8021B	22073

**Analysis Batch: 22484** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
890-2106-1	PH08	Total/NA	Solid	Total BTEX
890-2106-2	PH08A	Total/NA	Solid	Total BTEX
890-2106-3	PH08B	Total/NA	Solid	Total BTEX
890-2106-4	PH08C	Total/NA	Solid	Total BTEX

#### **GC Semi VOA**

Prep Batch: 21982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2106-1	PH08	Total/NA	Solid	8015NM Prep	
890-2106-2	PH08A	Total/NA	Solid	8015NM Prep	
890-2106-3	PH08B	Total/NA	Solid	8015NM Prep	
890-2106-4	PH08C	Total/NA	Solid	8015NM Prep	
MB 880-21982/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21982/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21982/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2104-A-3-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2104-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 21983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2106-1	PH08	Total/NA	Solid	8015B NM	21982
890-2106-2	PH08A	Total/NA	Solid	8015B NM	21982
890-2106-3	PH08B	Total/NA	Solid	8015B NM	21982
890-2106-4	PH08C	Total/NA	Solid	8015B NM	21982
MB 880-21982/1-A	Method Blank	Total/NA	Solid	8015B NM	21982

**Eurofins Carlsbad** 

Page 14 of 24

# **QC Association Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

# GC Semi VOA (Continued)

# **Analysis Batch: 21983 (Continued)**

	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
	LCS 880-21982/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21982
İ	LCSD 880-21982/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21982
	890-2104-A-3-D MS	Matrix Spike	Total/NA	Solid	8015B NM	21982
	890-2104-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21982

#### Analysis Batch: 22137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2106-1	PH08	Total/NA	Solid	8015 NM	
890-2106-2	PH08A	Total/NA	Solid	8015 NM	
890-2106-3	PH08B	Total/NA	Solid	8015 NM	
890-2106-4	PH08C	Total/NA	Solid	8015 NM	

#### **HPLC/IC**

#### Leach Batch: 22263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2106-1	PH08	Soluble	Solid	DI Leach	_
890-2106-2	PH08A	Soluble	Solid	DI Leach	
890-2106-3	PH08B	Soluble	Solid	DI Leach	
890-2106-4	PH08C	Soluble	Solid	DI Leach	
MB 880-22263/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-22263/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-22263/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2106-1 MS	PH08	Soluble	Solid	DI Leach	
890-2106-1 MSD	PH08	Soluble	Solid	DI Leach	

#### **Analysis Batch: 22386**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2106-1	PH08	Soluble	Solid	300.0	22263
890-2106-2	PH08A	Soluble	Solid	300.0	22263
890-2106-3	PH08B	Soluble	Solid	300.0	22263
890-2106-4	PH08C	Soluble	Solid	300.0	22263
MB 880-22263/1-A	Method Blank	Soluble	Solid	300.0	22263
LCS 880-22263/2-A	Lab Control Sample	Soluble	Solid	300.0	22263
LCSD 880-22263/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	22263
890-2106-1 MS	PH08	Soluble	Solid	300.0	22263
890-2106-1 MSD	PH08	Soluble	Solid	300.0	22263

**Eurofins Carlsbad** 

\_\_\_\_

5

6

8

9

10

12

13

14

Client: WSP USA Inc. Job ID: 890-2106-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

**Client Sample ID: PH08** Lab Sample ID: 890-2106-1

Date Collected: 03/17/22 09:45 Matrix: Solid Date Received: 03/18/22 13:03

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			22073	03/24/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22332	03/26/22 05:16	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22484	03/28/22 12:32	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22137	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 16:48	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/25/22 22:23	CH	XEN MID

Client Sample ID: PH08A Lab Sample ID: 890-2106-2

Date Collected: 03/17/22 10:00 Matrix: Solid Date Received: 03/18/22 13:03

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			22073	03/24/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22332	03/26/22 11:53	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22484	03/28/22 12:32	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22137	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 17:09	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/25/22 22:50	CH	XEN MID

**Client Sample ID: PH08B** Lab Sample ID: 890-2106-3

Date Collected: 03/17/22 10:40 **Matrix: Solid** Date Received: 03/18/22 13:03

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			22073	03/24/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22332	03/26/22 12:14	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22484	03/28/22 12:32	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22137	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 17:29	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/25/22 22:59	CH	XEN MID

**Client Sample ID: PH08C** Lab Sample ID: 890-2106-4

Date Collected: 03/17/22 10:50 **Matrix: Solid** Date Received: 03/18/22 13:03

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			22073	03/24/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22332	03/26/22 12:34	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22484	03/28/22 12:32	AJ	XEN MID

# Lab Chronicle

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

Client Sample ID: PH08C

Date Collected: 03/17/22 10:50

Lab S

Lab Sample ID: 890-2106-4

Matrix: Solid

Date Received: 03/18/22 13:03

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	22137	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 17:50	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/25/22 23:25	CH	XEN MID

#### Laboratory References:

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

5

3

4

5

\_\_\_\_\_

9

11

13

14

#### **Accreditation/Certification Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

#### **Laboratory: Eurofins Midland**

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

Authority Texas		rogram	Identification Number	Expiration Date
		ELAP	T104704400-21-22	06-30-22
The following analytes the agency does not of		ut the laboratory is not certifi	ied by the governing authority. This list ma	ay include analytes for wh
Analysis Method	Prep Method	Matrix	Analyte	
0045 1114		Solid	Total TPH	
8015 NM		Juliu	IOIAI IPH	

3

4

7

4.4

13

#### **Method Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2106-1

SDG: TE01291044

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

**Eurofins Carlsbad** 

9

3

4

7

10

13

#### **Sample Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2106-1

SDG: TE01291044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2106-1	PH08	Solid	03/17/22 09:45	03/18/22 13:03	1
890-2106-2	PH08A	Solid	03/17/22 10:00	03/18/22 13:03	3
890-2106-3	PH08B	Solid	03/17/22 10:40	03/18/22 13:03	6
890-2106-4	PH08C	Solid	03/17/22 10:50	03/18/22 13:03	7

13

# Project Manager: Company Name: WSP USA Inc., Permian office Kalie Jennings Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Address:

3300 North A St. Bldg 1, Unit 222

Address:

3104 E Greene St XTO Energy

Program: UST/PST rogram: UST/PST PRP
State of Project: NM

Bill to: (it different) Company Name:

Adrian Baker

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 Chain of Custody

Rovised Date 051418 Rev. 2018 1			6								5
			1308	3 18 22	3 %		A.	Age C		The state of the s	N. S.
Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Ф	Date/Time		(e)	χy: (Şignature)	Received by:		(Signature)	Relinquished by: (Signature)
	terms and conditions es beyond the control usly negotiated.	ites and subcontractors. It assigns standard terms and conditions to client if such losses are due to circumstances beyond the control of these terms will be enforced unless previously negotiated.	co, its affiliancurred by the not analyze	any to Xen xpenses in Xenco, but	lient comp losses or e bmitted to	hase order from c onsibility for any I r each sample su	ites a valid purc ssume any resp a charge of \$5 to	samples constitus and shall not as and project and a	uishment of a st of sample: applied to e	cument and reling able only for the co ge of \$75.00 will be	Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. 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 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 er
	9	Co Cu Pb Mr	Be Cd	As Ba		TCLP / SPLP 6010: 8RCRA	TCLP / SPL	9	) to be an	s) and Metal(s	Circle Method(s) and Metal(s) to be analyzed
Sn U V Zn	n Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V	Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni	Re B Cd	As Ba	Al Sh	13PPM Texas 11	SECEA 13PE	88	5000	10 200 8 / 6020-	Total 200 7 / 6010
				$\parallel$							
				+							
				+							
Composite			×	×		7	10:50	3/17/2022	S		РНОЗС
Composite			×	×	-	6	10:40	3/17/2022	S	L.	РНОЗВ
Composite			×	×	-	ω	10:00	3/17/2022	S		РНОЗА
Composite			×	×	_	_	9:45	3/17/2022	S		PH03
Sample Comments	S		Chloric	TPH (E	Numb	Depth	Time Sampled	Date Sampled	Matrix	fication	Sample Identification
lab, if received by 4:30pm	lat		ie (El	-	-		Total Containers:	Total	O (NAA	Yes No	Sample Custody Seals:
TAT starts the day recevied by the			PA 3			-012	Correction Factor:	Correc	· NA	Yes No	Cooler Custody Seals:
	Stock Williams	890-2106 Chain of Custody	0.00	-		400	£00-W M	1	No	(he)	Received Intact:
			)		ners	0	Thermometer ID	_	10.4	240	Temperature (°C):
					3	No No	Wet Ice:	(Yes) No	Temp Blank:		SAMPLE RECEIPT
	AFE:					ate:	Due Date	0	Ali Catsro		Sampler's Name:
	CC:		_				Rush:				P.O. Number:
IN nAPP210831345	IN nAF					ē ×	Routine	)44	TE01291044		Project Number:
Work Order Notes	S	ANALYSIS REQUEST				Turn Around	Tu	lar 100H	BEU 29 W Vedar 100H	BEU	Project Name:
Other:	Deliverables: EDD ADaPi	Email: travis.casey@wsp.com, kalei.jennings@wsp.com, dan.moir@ws	jennings (	m, kalei.	wsp.co	ravis.casey@	Email:			781-702-2329	Phone:
Map Chella	Level III BST/UST		×	Carlsbad, NM	0	City, State ZIP:			705	Midland, TX 79705	City, State ZIP:

Work Order No:

www.xenco.com

앜

**Work Order Comments** 

\_Brownfields RਸੂC

Superfund

Carlsbad, NM 88220

1089 N Canal St

**Eurofins Carlsbad** 

13 14

Chain of Custody Record

=	

💸 eurofins | Environment Testing

State, Zip: TX, 79701 Vote Since laboratory accreditations are subject to change Eurofins Environment Testing South Central, 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/tests/main'x being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central, LLC. PH03C (890-2106-4) PH03 (890-2106-1) BEU 29 W VEDAR 100H Deliverable Requested I, II III IV, Other (specify) PH03B (890-2106-3) PH03A (890-2106-2) Sample Identification - Client ID (Lab ID) Ossible Hazard Identification mpty Kit Relinquished by 132-704-5440(Tel) Phone: 575-988-3199 Fax: 575-988-3199 211 W Florida Ave Hinquished by **fidland** hipping/Receiving Custody Seals Intact. linquished by urofins Environment Testing South Centr confirmed lient Information inquished by: Yes No E (Sub Contract Lab) Custody Seal No Project #: 89000004 Date/Time Primary Deliverable Rank. 2 PO#: **FAT Requested (days):** Phone: sampler Sample Date 3/17/22 3/17/22 3/17/22 3/17/22 Date Requested 풀 Mountain 10 50 Mountain 10 40 Mountain 10:00 Mountair Sample 09 45 (C=comp. G=grab) Sample Preservation Code: Type Company Company Matrix Solid Solid Solid Solid Lab PM. jessica kramer@eurofinset.com Kramer, Jessica Field Filtered Sample (Yes or No Accreditations Required (See note)
NELAP - Louisiana, NELAP - Texas lime: Special Instructions/QC Requirements Perform MS/MSD (Yes or No) Received by Received by: × × 8015MOD\_NM/8015NM\_S\_Prep (MOD) Full TPH × × Cooler Temperature(s) °C and Other Remarks. Return To Client × 8015MOD Calc × × × × × × × 300\_ORGFM\_28D/DI\_LEACH Chloride 8021B/5035FP\_Calc (MOD) BTEX × × × × Analysis Requested Total\_BTEX\_GCV × × × × Disposal By Lab State of Origin New Mexico Carrier Tracking No(s) Archive For Total Number of containers A HCL
B. NaOH
C. Zn Acetate
D. Nitric Acid
E. NaHSO4
F. McHoh
G. Amchlor
H. Ascorbic Acid
I. Ice
J- DI Water
K. EDTA
L- EDA COC No: 890-675 1 Page 1 of 1 Preservation Codes 390-2106-1 Special Instructions/Note: M Hexane
N-None
O-AsNaO2
P NaZO4S
Q-NaZSO3
R NaZS2O3
S-HZSO4
T-TSP Dodecahydrate
U Acetone
V-MCAA
W pH 4-5
Z- other (specify) Company Company 06/08/2021

3/28/2022

#### **Login Sample Receipt Checklist**

Client: WSP USA Inc. Job Number: 890-2106-1 SDG Number: TE01291044

Login Number: 2106 List Source: Eurofins Carlsbad

List Number: 1 Creator: Clifton, Cloe

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**

Job Number: 890-2106-1 SDG Number: TE01291044

List Source: Eurofins Midland

List Creation: 03/21/22 08:55 AM

Login Number: 2106 List Number: 2 Creator: Lowe, Katie

Client: WSP USA Inc.

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	

Eurofins Carlsbad

Released to Imaging: 7/6/2022 2:44:10 PM

\_

5

7

9

11

13

# **Environment Testing America**

## **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2108-1

Laboratory Sample Delivery Group: TE01291044 Client Project/Site: BEU 29 W Vedar 100H

For:

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

Attn: Kalei Jennings

RAMER

Authorized for release by: 3/28/2022 9:27:54 AM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

.....LINKS .....

**Review your project** results through

**Have a Question?** 



Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 7/6/2022 2:44:10 PM

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: BEU 29 W Vedar 100H

Laboratory Job ID: 890-2108-1

SDG: TE01291044

# **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receint Checklists	21

2

3

4

6

8

10

12

13

#### **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-2108-1 Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

#### **Qualifiers**

**GC VOA** Qualifier

**Qualifier Description** MS and/or MSD recovery exceeds control limits.

U Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

F1 MS and/or MSD recovery exceeds control limits.

U Indicates the analyte was analyzed for but not detected.

**HPLC/IC** 

Qualifier **Qualifier Description** 

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)

Estimated Detection Limit (Dioxin) **EDL** LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number MQL Method Quantitation Limit

Not Calculated NC

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent Positive / Present POS

**PQL Practical Quantitation Limit** 

**PRES** Presumptive QC **Quality Control** 

RER Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

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: BEU 29 W Vedar 100H

SDG: TE01291044

Job ID: 890-2108-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2108-1

#### Receipt

The samples were received on 3/18/2022 1:03 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 0.6°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

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.

433

2

3

0

4

5

6

7

8

9

10

10

13

Matrix: Solid

Client: WSP USA Inc. Job ID: 890-2108-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

**Client Sample ID: PH07** Lab Sample ID: 890-2108-1

Date Collected: 03/16/22 15:10 Date Received: 03/18/22 13:03

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/21/22 16:00	03/22/22 03:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/21/22 16:00	03/22/22 03:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/21/22 16:00	03/22/22 03:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/21/22 16:00	03/22/22 03:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/21/22 16:00	03/22/22 03:23	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/21/22 16:00	03/22/22 03:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			03/21/22 16:00	03/22/22 03:23	1
1,4-Difluorobenzene (Surr)	108		70 - 130			03/21/22 16:00	03/22/22 03:23	1
Method: Total BTEX - Total BTEX	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			03/22/22 15:04	1
Method: 8015 NM - Diesel Range Analyte Total TPH		Qualifier		Unit mg/Kg	<u>D</u>	Prepared	Analyzed 03/22/22 10:41	Dil Fac
- -								
Method: 8015B NM - Diesel Rang								
Analyte	_	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 18:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 18:11	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 18:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130			03/21/22 09:09	03/21/22 18:11	1
o-Terphenyl	96		70 - 130			03/21/22 09:09	03/21/22 18:11	1
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
motilou. coole Amono, ion cin	J							
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

**Client Sample ID: PH07A** Lab Sample ID: 890-2108-2

Date Collected: 03/16/22 15:30 Date Received: 03/18/22 13:03

Sample Depth: 3

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/21/22 16:00	03/22/22 03:43	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/21/22 16:00	03/22/22 03:43	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/21/22 16:00	03/22/22 03:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/21/22 16:00	03/22/22 03:43	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/21/22 16:00	03/22/22 03:43	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/21/22 16:00	03/22/22 03:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			03/21/22 16:00	03/22/22 03:43	1

**Eurofins Carlsbad** 

**Matrix: Solid** 

Client: WSP USA Inc.

Job ID: 890-2108-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

**Client Sample ID: PH07A** Lab Sample ID: 890-2108-2

Date Collected: 03/16/22 15:30 Matrix: Solid Date Received: 03/18/22 13:03

Sample Depth: 3

Method: 8021B - Volatile Organic Compound	s (GC	(Continued)	
Wichida, 002 ID - Volatile Organic Compound	3100	, (Continued)	

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	108		70 - 130	03/21/22 16:00	03/22/22 03:43	1

1						
ı	Mothod:	Total	RTEY	- Total	RTEY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398		0.00398	mg/Kg			03/22/22 15:04	1

Method: 8015 NM - Diesel Range Organics (I	DRO)	(GC)
method. of to this - Dieser Range Organics (i	יוטוט	(00)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/22/22 10:41	1

Method: 8015B	NM - Diesel	Range Ord	anics	(DRO)	(GC)
motilioa. oo lob	THE DIGGGE	Trainge Oit	garnos	(5.10)	100)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/21/22 09:09	03/21/22 18:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/21/22 09:09	03/21/22 18:31	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/21/22 09:09	03/21/22 18:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83	70 - 130	03/21/22 09:09	03/21/22 18:31	1
o-Terphenyl	101	70 - 130	03/21/22 09:09	03/21/22 18:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		5.01	mg/Kg			03/25/22 23:43	1

Client Sample ID: PH07B Lab Sample ID: 890-2108-3 Matrix: Solid

Date Collected: 03/16/22 16:00 Date Received: 03/18/22 13:03

Sample Depth: 6

Method: 8021B -	Volatile Ord	danic Comp	ounds (GC)

Michiga. 002 1D - Volunic Orga	ine compounds	,00,							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	<0.00198	U	0.00198	mg/Kg		03/21/22 16:00	03/22/22 04:03	1	
Toluene	<0.00198	U	0.00198	mg/Kg		03/21/22 16:00	03/22/22 04:03	1	
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		03/21/22 16:00	03/22/22 04:03	1	
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		03/21/22 16:00	03/22/22 04:03	1	
o-Xylene	<0.00198	U	0.00198	mg/Kg		03/21/22 16:00	03/22/22 04:03	1	
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		03/21/22 16:00	03/22/22 04:03	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	107		70 - 130			03/21/22 16:00	03/22/22 04:03	1	
1,4-Difluorobenzene (Surr)	109		70 - 130			03/21/22 16:00	03/22/22 04:03	1	

Mothod:	Total RT	EY - Tota	I DTEY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00396	U	0.00396	ma/Ka			03/22/22 15:04	1

Analyte	•	•	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH			<49.8	U	49.8	mg/Kg			03/22/22 10:41	1

Matrix: Solid

Lab Sample ID: 890-2108-3

#### **Client Sample Results**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

**Client Sample ID: PH07B** 

Date Collected: 03/16/22 16:00 Date Received: 03/18/22 13:03

Sample Depth: 6

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.8	U	49.8	mg/Kg		03/21/22 09:09	03/21/22 18:52	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.8	U	49.8	mg/Kg		03/21/22 09:09	03/21/22 18:52	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/21/22 09:09	03/21/22 18:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			03/21/22 09:09	03/21/22 18:52	1
o-Terphenyl	101		70 - 130			03/21/22 09:09	03/21/22 18:52	1
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	424		4.98	mg/Kg		-	03/25/22 23:52	

1

#### **Surrogate Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-12519-A-1-F MS	Matrix Spike	109	112	
880-12519-A-1-G MSD	Matrix Spike Duplicate	105	110	
890-2108-1	PH07	103	108	
890-2108-2	PH07A	103	108	
890-2108-3	PH07B	107	109	
LCS 880-21997/1-A	Lab Control Sample	98	109	
LCSD 880-21997/2-A	Lab Control Sample Dup	104	111	
MB 880-21977/5-A	Method Blank	101	103	
MB 880-21997/5-A	Method Blank	101	103	
Surrogate Legend				

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
390-2104-A-3-D MS	Matrix Spike	74	80	
390-2104-A-3-E MSD	Matrix Spike Duplicate	76	82	
390-2108-1	PH07	80	96	
390-2108-2	PH07A	83	101	
390-2108-3	PH07B	83	101	
Surrogate Legend				

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

Matrix: Solid Prep Type: Total/NA

				ar Ara ara
-				Percent Surrogate Recovery (Acceptance Limits)
		1CO2	OTPH2	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
LCS 880-21982/2-A	Lab Control Sample	94	111	
LCSD 880-21982/3-A	Lab Control Sample Dup	96	116	
MB 880-21982/1-A	Method Blank	85	105	
Surrogate Legend				
1CO = 1-Chlorooctane				
OTPH = o-Terphenyl				

**Eurofins Carlsbad** 

2

3

4

10

12

13

OTPH = o-Terphenyl

#### QC Sample Results

Client: WSP USA Inc. Job ID: 890-2108-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21977/5-A

Lab Sample ID: MB 880-21997/5-A

**Analysis Batch: 21978** 

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 21978** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21977

1

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/21/22 07:44	03/21/22 11:19	
Toluene	<0.00200	U	0.00200	mg/Kg		03/21/22 07:44	03/21/22 11:19	•
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/21/22 07:44	03/21/22 11:19	
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/21/22 07:44	03/21/22 11:19	
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/21/22 07:44	03/21/22 11:19	
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/21/22 07:44	03/21/22 11:19	

MB MB

MR MR

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101	70 - 130	03/21/22 07:44	03/21/22 11:19	1
1.4-Difluorobenzene (Surr)	103	70 - 130	03/21/22 07:44	03/21/22 11:19	1

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21997 MR MR

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Benzene <0.00200 U 0.00200 mg/Kg 03/21/22 16:00 03/21/22 22:14 Toluene <0.00200 U 0.00200 mg/Kg 03/21/22 16:00 03/21/22 22:14 Ethylbenzene <0.00200 U 0.00200 mg/Kg 03/21/22 16:00 03/21/22 22:14 03/21/22 16:00 0.00400 03/21/22 22:14 m-Xylene & p-Xylene <0.00400 U mg/Kg <0.00200 U o-Xylene 0.00200 mg/Kg 03/21/22 16:00 03/21/22 22:14 Xylenes, Total <0.00400 U 0.00400 03/21/22 16:00 03/21/22 22:14 mg/Kg

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	03/21/22 16:00	03/21/22 22:14	1
1,4-Difluorobenzene (Surr)	103		70 - 130	03/21/22 16:00	03/21/22 22:14	1

Lab Sample ID: LCS 880-21997/1-A **Matrix: Solid** 

**Analysis Batch: 21978** 

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 21997

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09622		mg/Kg		96	70 - 130	
Toluene	0.100	0.09423		mg/Kg		94	70 - 130	
Ethylbenzene	0.100	0.09459		mg/Kg		95	70 - 130	
m-Xylene & p-Xylene	0.200	0.1942		mg/Kg		97	70 - 130	
o-Xylene	0.100	0.09694		mg/Kg		97	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	98	70 - 130
1.4-Difluorobenzene (Surr)	109	70 - 130

Lab Sample ID: LCSD 880-21997/2-A

**Matrix: Solid** 

**Analysis Batch: 21978** 

Analyte

Benzene

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 21997

LCSD LCSD Spike %Rec. **RPD** Added Result Qualifier Unit %Rec Limits RPD Limit 0.100 0.1016 mg/Kg 102 70 - 130 5

#### QC Sample Results

Client: WSP USA Inc. Job ID: 890-2108-1 SDG: TE01291044 Project/Site: BEU 29 W Vedar 100H

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

Lab Sample ID: LCSD 880-21997/2-A

**Matrix: Solid** 

**Analysis Batch: 21978** 

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

Prep Batch: 21997

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.09957		mg/Kg		100	70 - 130	6	35
Ethylbenzene	0.100	0.1019		mg/Kg		102	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2105		mg/Kg		105	70 - 130	8	35
o-Xylene	0.100	0.1042		mg/Kg		104	70 - 130	7	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: 880-12519-A-1-F MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 21978** 

Prep Type: Total/NA

Prep Batch: 21997

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U F1	0.0992	0.08131		mg/Kg		82	70 - 130	
Toluene	<0.00200	U F1	0.0992	0.07485		mg/Kg		75	70 - 130	
Ethylbenzene	<0.00200	U F1	0.0992	0.06772	F1	mg/Kg		68	70 - 130	
m-Xylene & p-Xylene	<0.00400	U F1	0.198	0.1379	F1	mg/Kg		69	70 - 130	
o-Xylene	<0.00200	U F1	0.0992	0.06810	F1	mg/Kg		68	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	109	70 - 130
1,4-Difluorobenzene (Surr)	112	70 - 130

Lab Sample ID: 880-12519-A-1-G MSD

**Matrix: Solid** 

**Analysis Batch: 21978** 

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 21997

		Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
	Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
	Benzene	<0.00200	U F1	0.0994	0.05992	F1	mg/Kg		60	70 - 130	30	35
	Toluene	<0.00200	U F1	0.0994	0.05565	F1	mg/Kg		55	70 - 130	29	35
	Ethylbenzene	<0.00200	U F1	0.0994	0.05106	F1	mg/Kg		51	70 - 130	28	35
	m-Xylene & p-Xylene	<0.00400	U F1	0.199	0.1057	F1	mg/Kg		53	70 - 130	26	35
	o-Xylene	<0.00200	U F1	0.0994	0.05340	F1	mg/Kg		53	70 - 130	24	35
ı												

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

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

Lab Sample ID: MB 880-21982/1-A

**Matrix: Solid** 

**Analysis Batch: 21983** 

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 21982

мв мв Result Qualifier Unit Prepared Gasoline Range Organics <50.0 U 50.0 mg/Kg 03/21/22 09:09 03/21/22 10:51

(GRO)-C6-C10

Client: WSP USA Inc. Job ID: 890-2108-1 Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

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

Lab Sample ID: MB 880-21982/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Total/NA** Analysis Batch: 21983 Prep Batch: 21982

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 10:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 10:51	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130			03/21/22 09:09	03/21/22 10:51	1
o-Terphenyl	105		70 - 130			03/21/22 09:09	03/21/22 10:51	1

o-Terprienyi		105	70 - 130				03/2	1/22 09.08	9 03/21/22 10.51	,
 Lab Sample ID: LCS 880-2198	2/2-A						Client	Sample	ID: Lab Control	Sample
Matrix: Solid									Prep Type: T	otal/NA
Analysis Batch: 21983									Prep Batch	: <b>21982</b>
-			Spike	LCS	LCS				%Rec.	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics			1000	852.9		mg/Kg		85	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over			1000	924.6		mg/Kg		92	70 - 130	
C10-C28)										
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	94		70 - 130							
o-Terphenyl	111		70 - 130							

Lab Sample ID: LCSD 880-21982/3-A	b Sample ID: LCSD 880-21982/3-A								
Matrix: Solid							Prep 1	ype: To	tal/NA
Analysis Batch: 21983							Prep	Batch:	21982
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	990.5		mg/Kg		99	70 - 130	15	20
Diesel Range Organics (Over C10-C28)	1000	1045		mg/Kg		105	70 - 130	12	20

	LCSD	LCSD		
Surrogate	%Recovery	Qualifier	Limits	
1-Chlorooctane	96		70 - 130	
o-Terphenyl	116		70 - 130	

Lab Sample ID: 890-2104-A-Matrix: Solid Analysis Batch: 21983	3-D MS							Client	Prep T	: Matrix Spike ype: Total/NA Batch: 21982
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	<49.9	U	998	809.3		mg/Kg		79	70 - 130	
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	723.2	F1	mg/Kg		69	70 - 130	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	74		70 - 130							
o-Terphenyl	80		70 - 130							

Client: WSP USA Inc. Job ID: 890-2108-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

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

Lab Sample ID: 890-2104-A-3-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid Analysis Batch: 21983**  Prep Type: Total/NA Prep Batch: 21982

Sample Sample Spike MSD MSD RPD Result Qualifier RPD Limit Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics <49.9 U 999 836.1 mg/Kg 81 70 - 130 3 20 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 UF1 999 747.9 mg/Kg 71 70 - 130 3

C10-C28)

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	76		70 - 130
o-Terphenyl	82		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-22263/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 22386** 

мв мв

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/25/22 19:53	1

Lab Sample ID: LCS 880-22263/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 22386** 

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	249.9		mg/Kg		100	90 - 110	 

Lab Sample ID: LCSD 880-22263/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

**Analysis Batch: 22386** 

	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	248.2		ma/Ka		99	90 - 110		20	

Lab Sample ID: 890-2106-A-1-O MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 22386** 

	Sample	Sample	Spike	IVIS IV	VIS .				%Rec.	
Analyte	Result	Qualifier	Added	Result Q	Qualifier	Unit	D	%Rec	Limits	
Chloride	193		250	427.7		mg/Kg	_	94	90 - 110	

Lab Sample ID: 890-2106-A-1-P MSD

Matrix: Solid

Analysis Batch: 22386											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	193		250	427.5		mg/Kg		94	90 _ 110	0	20

**Eurofins Carlsbad** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike Duplicate

#### **QC Association Summary**

Client: WSP USA Inc.

Job ID: 890-2108-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

**GC VOA** 

Prep Batch: 21977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21977/5-A	Method Blank	Total/NA	Solid	5035	

**Analysis Batch: 21978** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2108-1	PH07	Total/NA	Solid	8021B	21997
890-2108-2	PH07A	Total/NA	Solid	8021B	21997
890-2108-3	PH07B	Total/NA	Solid	8021B	21997
MB 880-21977/5-A	Method Blank	Total/NA	Solid	8021B	21977
MB 880-21997/5-A	Method Blank	Total/NA	Solid	8021B	21997
LCS 880-21997/1-A	Lab Control Sample	Total/NA	Solid	8021B	21997
LCSD 880-21997/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21997
880-12519-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	21997
880-12519-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21997

Prep Batch: 21997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2108-1	PH07	Total/NA	Solid	5035	<u> </u>
890-2108-2	PH07A	Total/NA	Solid	5035	
890-2108-3	PH07B	Total/NA	Solid	5035	
MB 880-21997/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21997/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21997/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12519-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
880-12519-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 22150

Lab	Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890	)-2108-1	PH07	Total/NA	Solid	Total BTEX	
890	)-2108-2	PH07A	Total/NA	Solid	Total BTEX	
890	)-2108-3	PH07B	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

Prep Batch: 21982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2108-1	PH07	Total/NA	Solid	8015NM Prep	<del></del>
890-2108-2	PH07A	Total/NA	Solid	8015NM Prep	
890-2108-3	PH07B	Total/NA	Solid	8015NM Prep	
MB 880-21982/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21982/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21982/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2104-A-3-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2104-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 21983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2108-1	PH07	Total/NA	Solid	8015B NM	21982
890-2108-2	PH07A	Total/NA	Solid	8015B NM	21982
890-2108-3	PH07B	Total/NA	Solid	8015B NM	21982
MB 880-21982/1-A	Method Blank	Total/NA	Solid	8015B NM	21982
LCS 880-21982/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21982

**Eurofins Carlsbad** 

Page 13 of 22

#### **QC Association Summary**

Client: WSP USA Inc. Job ID: 890-2108-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

#### GC Semi VOA (Continued)

#### **Analysis Batch: 21983 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-21982/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21982
890-2104-A-3-D MS	Matrix Spike	Total/NA	Solid	8015B NM	21982
890-2104-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21982

#### **Analysis Batch: 22138**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2108-1	PH07	Total/NA	Solid	8015 NM	
890-2108-2	PH07A	Total/NA	Solid	8015 NM	
890-2108-3	РН07В	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 22263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2108-1	PH07	Soluble	Solid	DI Leach	
890-2108-2	PH07A	Soluble	Solid	DI Leach	
890-2108-3	PH07B	Soluble	Solid	DI Leach	
MB 880-22263/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-22263/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-22263/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2106-A-1-O MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2106-A-1-P MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 22386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2108-1	PH07	Soluble	Solid	300.0	22263
890-2108-2	PH07A	Soluble	Solid	300.0	22263
890-2108-3	PH07B	Soluble	Solid	300.0	22263
MB 880-22263/1-A	Method Blank	Soluble	Solid	300.0	22263
LCS 880-22263/2-A	Lab Control Sample	Soluble	Solid	300.0	22263
LCSD 880-22263/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	22263
890-2106-A-1-O MS	Matrix Spike	Soluble	Solid	300.0	22263
890-2106-A-1-P MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	22263

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2108-1

SDG: TE01291044

**Client Sample ID: PH07** 

Date Received: 03/18/22 13:03

Client: WSP USA Inc.

Lab Sample ID: 890-2108-1 Date Collected: 03/16/22 15:10

Matrix: Solid

Batch Batch Dilution Batch Prepared Prep Type Method Run Factor Number or Analyzed Analyst Type Total/NA Prep 5035 21997 03/21/22 16:00 KL XEN MID Total/NA Analysis 8021B 1 21978 03/22/22 03:23 KL XEN MID Total/NA Analysis Total BTEX 22150 03/22/22 15:04 XEN MID AJTotal/NA Analysis 8015 NM 1 22138 03/22/22 10:41 AJ XEN MID 03/21/22 09:09 XEN MID Total/NA 8015NM Prep 21982 DM Prep Total/NA Analysis 8015B NM 21983 03/21/22 18:11 AJ**XEN MID** 22263 03/24/22 10:27 SC XEN MID Soluble DI Leach Leach Soluble Analysis 300.0 1 22386 03/25/22 23:34 СН XEN MID

Client Sample ID: PH07A Lab Sample ID: 890-2108-2

Date Collected: 03/16/22 15:30 Matrix: Solid

Date Received: 03/18/22 13:03

Batch Batch Dilution Batch Prepared Prep Type Method Run Number or Analyzed Analyst Type Factor Lab XEN MID Total/NA Prep 5035 21997 03/21/22 16:00 KL 8021B 03/22/22 03:43 XEN MID Total/NA Analysis 1 21978 KL Total/NA Total BTEX 03/22/22 15:04 XEN MID Analysis 1 22150 A.I Total/NA Analysis 8015 NM 22138 03/22/22 10:41 AJ**XEN MID** XEN MID Total/NA 8015NM Prep 21982 03/21/22 09:09 Prep DM Total/NA Analysis 8015B NM 21983 03/21/22 18:31 **XEN MID** ΑJ Soluble DI Leach XEN MID 03/24/22 10:27 SC Leach 22263 Soluble 300.0 22386 03/25/22 23:43 СН XEN MID Analysis 1

**Client Sample ID: PH07B** Lab Sample ID: 890-2108-3 Date Collected: 03/16/22 16:00 **Matrix: Solid** 

Date Received: 03/18/22 13:03

Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst Lab Prep Total/NA 5035 21997 03/21/22 16:00 KL XEN MID Total/NA Analysis 8021B 21978 03/22/22 04:03 KL **XEN MID** 1 Total/NA Total BTEX 22150 03/22/22 15:04 XEN MID Analysis A.I 1 Total/NA Analysis 8015 NM 22138 03/22/22 10:41 AJXEN MID Total/NA Prep 8015NM Prep 21982 03/21/22 09:09 DM XFN MID Total/NA 8015B NM 03/21/22 18:52 XEN MID Analysis 21983 A.I DI Leach 22263 03/24/22 10:27 SC **XEN MID** Soluble Leach Analysis 300.0 22386 03/25/22 23:52 СН XEN MID Soluble

Laboratory References:

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

**Eurofins Carlsbad** 

Released to Imaging: 7/6/2022 2:44:10 PM

#### **Accreditation/Certification Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

#### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	ELAP	T104704400-21-22	06-30-22
The following analytes	are included in this report by			and the state of the contract
the agency does not of	• '	it the laboratory is not certifi	ed by the governing authority. This list ma	ay include analytes for
,	• '	Matrix	ed by the governing authority. This list ma	ay include analytes for
the agency does not of	fer certification.	•	, , ,	ay include analytes for

6

8

10

46

13

#### **Method Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2108-1 SDG: TE01291044

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

#### **Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

#### **Sample Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2108-1

SDG: TE01291044

29 I U44	

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Dep
890-2108-1	PH07	Solid	03/16/22 15:10	03/18/22 13:03	1
890-2108-2	PH07A	Solid	03/16/22 15:30	03/18/22 13:03	3
890-2108-3	PH07B	Solid	03/16/22 16:00	03/18/22 13:03	6

Л

6

8

9

11

12

		4 0	01800		1 CH UNI	Sept.	Jan Sc
ture) Date/Time	ıre) Received by: (Signature)	Relinquished by: (Signature)	Date/Time	gnature)	Received by: (Signature)	Signature)	Relinquished by: (Signature)
	tandard terms and conditions cumstances beyond the control ss previously negotiated.	otice: 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 is 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 samples.  If 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.	ient company to Xenco, iosses or expenses incur omitted to Xenco, but not	lild purchase order from cl ny responsibility for any lo of \$5 for each sample sub	samples constitutes a va s and shall not assume a ach project and a charge	ument and relinquishment of solid properties of samples of \$75.00 will be applied to a	otice: Signature of this doc i service. Xenco will be lial Xenco. A minimum charg
SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 : Hg	Fe Pb Mg Mn Mo Ni K Se Ag SiO2   Mo Ni Se Ag Tl U 1	B Cd Ca Cr Co Cu Cd Cr Co Cu Pb Mn	Sb As Ba Sb As Ba	RCRA 13PPM Texas 11 A	8RCRA alyzed <b>TCLP</b>	Total 200.7 / 6010 200.8 / 6020: 8RCRA Circle Method(s) and Metal(s) to be analyzed TCLI	Total 200.7 / 6010 Circle Method(s) a
Composite		×	- ×	6	3/16/2022 16:00	ဟ	РН02В
Composite		×	×	30 3	3/16/2022 15:30	ဟ	PH02A
Composite		×	×	10 1	3/16/2022 15:10	S	PH02
Sample Comments		Chlorid	Numbe TPH (EI BTEX (I	ne Depth	Date Time Sampled Sampled	ication Matrix	Sample Identification
lab, if received by 4:30pm		e (EF	PA 8	iners:	Total Containers:	O	Sample Custody Seals:
TAT starts the day recevied by the		PA 3	015)	actor: -0.2	Correction Factor:	Yes No (N/A	Cooler Custody Seals:
	890-2108 Chain of Custody			M_901	JWW GO	No See No	Received Intact:
			ers	meter ID		286	omposition (°C):
				Wet Ice: (Yes) No	Yes No We	Temp Blank:	SAMPLE RECEIPT
AFE:				Due Date:		Ali Catsro	Sampler's Name:
CC:				Rush:			O.O. Number:
IN nAPP210831345				Routine X		TE01291044	oroject Number:
Work Order Notes	ST	ANALYSIS REQUEST		Turn Around	lar 100H	BEU 29 W Vedar 100H	roject Name:
aPT Other:	Deliverables: EDD ADaPT	Email: travis.casey@wsp.com, kalei.jennings@wsp.com, dan.moir@ws	wsp.com, kalei.jer	mail: travis.casey@	_	781-702-2329	hone: 78
BST/UST TARP LOOIN	Reporting:Level III Level III Les		Carlsbad, NM	City, State ZIP:		Midland, TX 79705	City, State ZIP: M
	State of Project: NM	e St.	3104 E Greene	Address:	Unit 222	3300 North A St. Bldg 1, Unit 222	Address: 3:
Brownfields RRC Superfund □	Program: UST/PST PRP Brow		: XTO Energy	Company Name	office	WSP USA Inc., Permian office	Company Name: W
Work Order Comments	Work Order		Adrian Baker	Bill to: (if different)		Kalie Jennings	roject Manager: K
m Page of	20-2000) www.xenco.com	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)	0) EL Paso,TX (915)5 Z (480-355-0900) Atlai	Midland,TX (432-704-544 75-392-7550) Phoenix,A:	Hobbs,NM (57	ABORATORIES	LA
		HOUSION, 1 A (201) 240-4200 Dallas, 1 A (214) 302-0300 Gail Alliashio, 1 A (210) 503-5004	Dallas, I \ (214) 902	ousion, I X (281) 240-420	_	「ハフフ	* X

Eurofins Carlsbad																		) de la companya de l	
1089 N Canal St. Carlshad NM 88220	0	<b>Chain of Custody Record</b>	f Cust	ody Re	cord													seuroims	Environment Testing America
Phone: 575-988-3199 Fax: 575-988-3199							l												
Client Information (Sub Contract Lab)	Sampler			Lab PM Krame	Lab PM Kramer, Jessica						Came	Carrier Tracking No(s):	king ?	lo(s):				COC No: 890-675 1	
	Phone:			E-Mail Jessica	E-Mail  essica.kramer@eurofinset.com	euro	inset	com			State	State of Origin. New Mexico	8 3					Page Page 1 of 1	
Company: Eurofins Environment Testing South Centr				7♪	Accreditations Required (See note) NELAP - Louisiana, NELAP	s Requi ouisia	red (Se	e note	· Texas	as								Job #: 890-2108-1	
Address. 1211 W Florida Ave,	Due Date Requested: 3/24/2022	ģ						Ana	<b>7</b>	Rec	īes	ē		ı				on Code	
City Midland	TAT Requested (days):	ys):							$\dashv$									B - NaOH N	M Hexane N - None O - AsNaO2
State Zip: TX, 79701	1				ТРН													A H	P Na2O4S Q - Na2SO3
Phone: 432-704-5440(Tel)	PO#			4			de											- Amchlor - Ascorbic Acid	K N8252O3 S - H2SO4 T - TSP Dodecahydrate
Email	WO #				ło)			TEX									by Comme		
Project Name: BEU 29 W VEDAR 100H	Project #: 89000004			### \$ ###	es or l			OD) B									taine	L EDA Z	W pH 4-5 Z - other (specify)
Site	SSOW#:				ISD (Y												of cor	Other <sup>.</sup>	
			Sample Type	Matrix (w=water S=solid	Filtered rm MS/N IOD_NM/8	IOD_Calc	RGFM_28	8/5035FP_	BTEX_GC								Number		
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) B	₹.	Perf	8016	-	_	rota								Tota	Special Inst	Special Instructions/Note:
PH02 (890-2108-1)	3/16/22	15 10	Solid	Solid	×	×	×	×	×	- Indi	(27)				300 ·		-  >		Strong Control of the
PH02A (890-2108-2)	3/16/22	15 30 Mountain		Solid	×	×	×	×	×								-4		
PH02B (890-2108-3)	3/16/22	16 00 Mountain		Solid	×	×	×	×	×								-		
					+			_	+	+									
					+			_	-	_							P.	Table	
								<u> </u>											
Note Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, 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/tests/matrix being analyzed the samples must be shipped to back to the Eurofins Environment Testing South Central LLC alaboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC alaboratory acceptability if all requested accreditations are current to date return the singed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.	t Testing South Centr bove for analysis/tests ntral, LLC attention in	al, LLC places the /matrix being an hmediately If al	he ownership o alyzed the san I requested acc	f method analy nples must be s reditations are o	te & accredit hipped back current to da	tation c to the	omplia Eurofin	nce upo is Envir signed	on out s	ubcon t Testir of Custo	ract la ig Sou odv att	borato th Cer	ries tral L	This s LC lai	ample oorato	ship ry or ice to	ment other Euro	t is forwarded under cha instructions will be provins Environment Testin	ain-of-custody If the vided Any changes to a South Central LLC.
Possible Hazard Identification					Sample Disposal ( A fe	e Dist	osal	A	e ma	]be	sse	sed	if sa	mp	_sal	Je l	ain	e may be assessed if samples are retained longer than 1 month)	nonth)
Deliverable Requested I II, III IV, Other (specify)	Primary Deliverable Rank	able Rank 2			Special Instructions/QC	al Instructions/QC	uction	s/QC	Requirements	ireme	ints			ľ	1				
Empty Kit Relinquished by:		Date			Time.		١	١	-			Meth	Method of Shipment:	Shipn	ent:				
Relinquished by Que 3 (822	Date/Time:			Company	Rec	Received by:	ķ	Q	4	<i>'</i>				Date/Time:		$\overline{D}$	52	18.00 18.00	Company
Relinquished by	Date/Time		0	Company	Rec	Received by	Ÿ	_	9					Date	Date/Time				Company
Relinquished by	Date/Time:		0	Company	Rec	Received by	Ą.							Date	Date/Time:				Company
Custody Seal No  Δ Yes Δ No					Coc	Cooler Temperature(s) °C	ηperatι	re(s) °(	and C	and Other Remarks	emark								
							l	l			l		١	1		ı	ı		Ver 06/08/2021

#### **Login Sample Receipt Checklist**

Client: WSP USA Inc. Job Number: 890-2108-1 SDG Number: TE01291044

Login Number: 2108 List Source: Eurofins Carlsbad

List Number: 1 Creator: Clifton, Cloe

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: 890-2108-1 SDG Number: TE01291044

Login Number: 2108 **List Source: Eurofins Midland** List Number: 2

List Creation: 03/21/22 08:56 AM

Creator: Lowe, Katie

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	True	

Released to Imaging: 7/6/2022 2:44:10 PM

<6mm (1/4").

# **Environment Testing America**

### **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2110-1

Laboratory Sample Delivery Group: TE01291044 Client Project/Site: BEU 29 W Vedar 100H

,

For:

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

Attn: Kalei Jennings

MRAMER

Authorized for release by: 3/28/2022 9:27:52 AM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

LINKS .....

Review your project results through

Total Access

**Have a Question?** 



Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 7/6/2022 2:44:10 PM

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.

1

2

3

4

6

9

11

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

Laboratory Job ID: 890-2110-1

SDG: TE01291044

# **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receint Checklists	21

3

4

6

8

40

11

40

#### Definitions/Glossary

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

01291044

#### **Qualifiers**

**GC VOA** 

 Qualifier
 Qualifier Description

 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

 F1
 MS and/or MSD recovery exceeds control limits.

 U
 Indicates the analyte was analyzed for but not detected.

HPLC/IC Qualifier

U Indicates the analyte was analyzed for but not detected.

**Qualifier Description** 

**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

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MPN Most Probable Number
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent
POS Positive / Present
PQL Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

**Eurofins Carlsbad** 

3

6

0

9

#### **Case Narrative**

Client: WSP USA Inc. Job ID: 890-2110-1 SDG: TE01291044 Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2110-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2110-1

#### Receipt

The samples were received on 3/18/2022 1:03 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 0.6°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

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

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

Matrix: Solid

Lab Sample ID: 890-2110-1

#### **Client Sample Results**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

**Client Sample ID: PH06** 

Date Collected: 03/16/22 09:20 Date Received: 03/18/22 13:03

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 16:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 16:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 16:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/23/22 10:00	03/23/22 16:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 16:01	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/23/22 10:00	03/23/22 16:01	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	118		70 - 130			03/23/22 10:00	03/23/22 16:01	
1,4-Difluorobenzene (Surr)	100		70 - 130			03/23/22 10:00	03/23/22 16:01	1
Method: Total BTEX - Total BTEX	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			03/24/22 16:34	-
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0		<b>RL</b> 50.0	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 03/22/22 10:41	
	<50.0	U			<u>D</u>	Prepared		
Total TPH	<50.0	U			<u>D</u> 	Prepared Prepared		
Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics	<50.0	RO) (GC) Qualifier	50.0	mg/Kg			03/22/22 10:41	Dil Fac
Total TPH  Method: 8015B NM - Diesel Rang Analyte	<50.0  ge Organics (D  Result	RO) (GC) Qualifier	50.0	mg/Kg		Prepared	03/22/22 10:41  Analyzed	Dil Fac
Total TPH  Method: 8015B NM - Diesel Rang Analyte  Gasoline Range Organics (GRO)-C6-C10	<50.0  ge Organics (D)  Result  <50.0	RO) (GC) Qualifier	50.0 RL 50.0	mg/Kg  Unit  mg/Kg		Prepared 03/21/22 09:09	03/22/22 10:41  Analyzed  03/21/22 19:13	Dil Fac
Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	<50.0  ge Organics (D)  Result  <50.0	RO) (GC) Qualifier U	50.0 RL 50.0	mg/Kg  Unit  mg/Kg		Prepared 03/21/22 09:09	03/22/22 10:41  Analyzed  03/21/22 19:13	Dil Fac
Total TPH  Method: 8015B NM - Diesel Rang Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<50.0  ge Organics (D  Result  <50.0  <50.0	CONTROL (GC) Qualifier U U U	50.0  RL  50.0  50.0	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/21/22 09:09 03/21/22 09:09 03/21/22 09:09 Prepared	03/22/22 10:41  Analyzed  03/21/22 19:13  03/21/22 19:13  03/21/22 19:13  Analyzed	Dil Fac
Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<50.0  ge Organics (D) Result <50.0 <50.0 <50.0	CONTROL (GC) Qualifier U U U	50.0  RL  50.0  50.0  50.0	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/21/22 09:09 03/21/22 09:09 03/21/22 09:09	03/22/22 10:41  Analyzed 03/21/22 19:13 03/21/22 19:13	Dil Fac
Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	<50.0  ge Organics (D  Result  <50.0  <50.0  <80.0  %Recovery	CONTROL (GC) Qualifier U U U	50.0  RL 50.0  50.0  50.0  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/21/22 09:09 03/21/22 09:09 03/21/22 09:09 Prepared	03/22/22 10:41  Analyzed  03/21/22 19:13  03/21/22 19:13  03/21/22 19:13  Analyzed	Dil Fac
Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	<50.0 ge Organics (D) Result <50.0 <50.0 <50.0 <83 99	CODE CODE CODE CODE CODE CODE CODE CODE	50.0  RL 50.0  50.0  50.0  Limits 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/21/22 09:09 03/21/22 09:09 03/21/22 09:09 Prepared 03/21/22 09:09	03/22/22 10:41  Analyzed 03/21/22 19:13 03/21/22 19:13  Analyzed 03/21/22 19:13	Dil Fac
Total TPH  Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	<50.0 ge Organics (D Result <50.0 <50.0 <50.0 <83 99 omatography -	CODE CODE CODE CODE CODE CODE CODE CODE	50.0  RL 50.0  50.0  50.0  Limits 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/21/22 09:09 03/21/22 09:09 03/21/22 09:09 Prepared 03/21/22 09:09	03/22/22 10:41  Analyzed 03/21/22 19:13 03/21/22 19:13  Analyzed 03/21/22 19:13	Dil Fac

Client Sample ID: PH06A

Date Collected: 03/16/22 10:30 Date Received: 03/18/22 13:03

Date Received. 00/10//

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/23/22 10:00	03/23/22 16:22	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/23/22 10:00	03/23/22 16:22	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/23/22 10:00	03/23/22 16:22	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		03/23/22 10:00	03/23/22 16:22	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/23/22 10:00	03/23/22 16:22	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/23/22 10:00	03/23/22 16:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130			03/23/22 10:00	03/23/22 16:22	1

**Eurofins Carlsbad** 

Lab Sample ID: 890-2110-2

2

3

4

6

8

10

12

1 3

iiio Gariobaa

Matrix: Solid

03/24/22 16:34

03/21/22 19:33

03/21/22 09:09

Prepared

Client: WSP USA Inc. Job ID: 890-2110-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

Client Sample ID: PH06A Lab Sample ID: 890-2110-2

Date Collected: 03/16/22 10:30 Matrix: Solid Date Received: 03/18/22 13:03

Sample Depth: 4

Total BTEX

Method: 8021B - Volatile Org	ganic Compounds (	GC) (Contii	nued)					
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	101		70 - 130			03/23/22 10:00	03/23/22 16:22	1
Method: Total BTEX - Total B	BTEX Calculation							
Δnalvte	Result	Qualifier	RI	Unit	D	Prepared	Analyzed	Dil Fac

Method: 8015 NM - Diesel Range O	rganics (DRO) (GC)						
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0 U	50.0	mg/Kg			03/22/22 10:41	1

0.00402

mg/Kg

<0.00402 U

101

Result Qualifier

<49.9 U

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 19:33	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 19:33	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 19:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130			03/21/22 09:09	03/21/22 19:33	1

Method: 300.0 - Anions, Ion Chron	natography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	281		5.03	mg/Kg			03/26/22 00:10	1

70 - 130

Lab Sample ID: 890-2110-3 **Client Sample ID: PH06B Matrix: Solid** 

Date Collected: 03/16/22 12:15 Date Received: 03/18/22 13:03

Analyte

Total TPH

o-Terphenyl

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 16:42	
Toluene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 16:42	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 16:42	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		03/23/22 10:00	03/23/22 16:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 16:42	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		03/23/22 10:00	03/23/22 16:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	134	S1+	70 - 130			03/23/22 10:00	03/23/22 16:42	1
1,4-Difluorobenzene (Surr)	103		70 - 130			03/23/22 10:00	03/23/22 16:42	1
Method: Total BTEX - Total B1	ΓEX Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			03/24/22 16:34	1

**Eurofins Carlsbad** 

Analyzed

03/22/22 10:41

RL

49.9

Unit

mg/Kg

Dil Fac

Matrix: Solid

Lab Sample ID: 890-2110-3

#### **Client Sample Results**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

Client Sample ID: PH06B

Date Collected: 03/16/22 12:15 Date Received: 03/18/22 13:03

Sample Depth: 6

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		03/21/22 09:09	03/21/22 19:54	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		03/21/22 09:09	03/21/22 19:54	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/21/22 09:09	03/21/22 19:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130			03/21/22 09:09	03/21/22 19:54	1
o-Terphenyl	99		70 - 130			03/21/22 09:09	03/21/22 19:54	1
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	353	-	5.04	mg/Kg		-	03/26/22 00:19	

3

<u>/</u>

9

11

16

4 /

#### **Surrogate Summary**

Client: WSP USA Inc. Job ID: 890-2110-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate I
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-2105-A-1-F MS	Matrix Spike	52 S1-	104	
890-2105-A-1-G MSD	Matrix Spike Duplicate	98	109	
890-2110-1	PH06	118	100	
890-2110-2	PH06A	124	101	
890-2110-3	PH06B	134 S1+	103	
LCS 880-21853/1-A	Lab Control Sample	98	102	
LCSD 880-21853/2-A	Lab Control Sample Dup	100	107	
MB 880-21853/5-A	Method Blank	120	96	
Surrogate Legend				
BFB = 4-Bromofluorobe	nzene (Surr)			

DFBZ = 1,4-Difluorobenzene (Surr)

OTPH = o-Terphenyl

OTPH = o-Terphenyl

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1001	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-2104-A-3-D MS	Matrix Spike	74	80	
890-2104-A-3-E MSD	Matrix Spike Duplicate	76	82	
890-2110-1	PH06	83	99	
890-2110-2	PH06A	87	101	
890-2110-3	PH06B	82	99	
Surrogate Legend				
1CO = 1-Chlorooctane				

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

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

		Percent Surrogate Recovery (Acceptance Limits)							
		1CO2	OTPH2						
Lab Sample ID	Client Sample ID	(70-130)	(70-130)						
LCS 880-21982/2-A	Lab Control Sample	94	111						
LCSD 880-21982/3-A	Lab Control Sample Dup	96	116						
MB 880-21982/1-A	Method Blank	85	105						
Surrogate Legend									

Job ID: 890-2110-1 Client: WSP USA Inc. Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

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

Lab Sample ID: MB 880-21853/5-A

**Matrix: Solid** Analysis Batch: 22182 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21853

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/23/22 07:30	03/23/22 11:09	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	03/23/22 07:30	03/23/22 11:09	1
1,4-Difluorobenzene (Surr)	96		70 - 130	03/23/22 07:30	03/23/22 11:09	1

Lab Sample ID: LCS 880-21853/1-A

**Matrix: Solid** 

**Analysis Batch: 22182** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 21853

Spike LCS LCS Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.1060 mg/Kg 106 70 - 130 Toluene 0.100 0.08963 mg/Kg 90 70 - 130 0.100 0.09757 Ethylbenzene mg/Kg 98 70 - 130 0.200 0.2096 105 70 - 130 m-Xylene & p-Xylene mg/Kg 0.100 o-Xylene 0.1034 mg/Kg 103 70 - 130

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	98	70 - 130
1,4-Difluorobenzene (Surr)	102	70 - 130

Lab Sample ID: LCSD 880-21853/2-A

**Matrix: Solid** 

**Analysis Batch: 22182** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 21853

LCSD LCSD RPD Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Limit Benzene 0.100 0.1111 mg/Kg 111 70 - 130 5 35 Toluene 0.100 0.08944 mg/Kg 89 70 - 130 0 35 Ethylbenzene 0.100 0.09503 mg/Kg 95 70 - 130 35 3 0.200 0.2047 m-Xylene & p-Xylene mg/Kg 102 70 - 130 35 0.100 0.1019 102 o-Xylene mg/Kg 70 - 130 35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits		
4-Bromofluorobenzene (Surr)	100		70 - 130		
1,4-Difluorobenzene (Surr)	107		70 - 130		

Lab Sample ID: 890-2105-A-1-F MS

**Matrix: Solid** 

Analysis Batch: 22182

Client Sample ID: Matrix Spike Prep Type: Total/NA

Prep Batch: 21853

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.0996	0.09756		mg/Kg		98	70 - 130	
Toluene	<0.00202	U	0.0996	0.08866		mg/Kg		89	70 - 130	

**Eurofins Carlsbad** 

Page 9 of 22

#### QC Sample Results

Job ID: 890-2110-1 Client: WSP USA Inc. Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

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

Lab Sample ID: 890-2105-A-1-G MSD

**Matrix: Solid** 

**Matrix: Solid** 

o-Xylene

**Analysis Batch: 22182** 

Lab Sample ID: 890-2105-A-1-F MS Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 21853

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00202	U	0.0996	0.1010		mg/Kg		101	70 - 130	
m-Xylene & p-Xylene	<0.00404	U	0.199	0.2233		mg/Kg		112	70 - 130	
o-Xylene	<0.00202	U	0.0996	0.1109		mg/Kg		111	70 - 130	

MS MS

Surrogate	%Recovery	Qualifier	Limits	
4-Bromofluorobenzene (Surr)	52	S1-	70 - 130	
1,4-Difluorobenzene (Surr)	104		70 - 130	

Client Sample ID: Matrix Spike Duplicate

70 - 130

Prep Type: Total/NA

14

Prep Batch: 21853

**Analysis Batch: 22182** Sample Sample Spike MSD MSD %Rec. Result Qualifier Added Result Qualifier RPD Limit Analyte Unit %Rec Limits 0.100 Benzene <0.00202 U 0.1038 mg/Kg 103 70 - 130 6 35 Toluene <0.00202 U 0.08314 0.100 mg/Kg 83 70 - 130 6 35 Ethylbenzene <0.00202 U 0.100 0.08960 mg/Kg 90 70 - 130 12 35 <0.00404 U 0.200 0.1934 97 70 - 130 35 m-Xylene & p-Xylene mg/Kg 14

0.09686

mg/Kg

0.100

MSD MSD

<0.00202 U

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

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

Lab Sample ID: MB 880-21982/1-A

**Matrix: Solid** 

**Analysis Batch: 21983** 

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 21982

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 10:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 10:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 10:51	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	03/21/22 09:09	03/21/22 10:51	1
o-Terphenyl	105		70 - 130	03/21/22 09:09	03/21/22 10:51	1

Lab Sample ID: LCS 880-21982/2-A

**Matrix: Solid** 

**Analysis Batch: 21983** 

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

Prep Batch: 21982

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	852.9		mg/Kg		85	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	924.6		mg/Kg		92	70 - 130	
C10-C28)								

Client: WSP USA Inc. Job ID: 890-2110-1 Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

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

LCS LCS

Lab Sample ID: LCS 880-21982/2-A

**Matrix: Solid** 

**Analysis Batch: 21983** 

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

Prep Batch: 21982

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 94 70 - 130 o-Terphenyl 111 70 - 130

Lab Sample ID: LCSD 880-21982/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

**Analysis Batch: 21983** 

Prep Type: Total/NA

Prep Batch: 21982

Spike LCSD LCSD %Rec. RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1000 990.5 99 70 - 13015 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 1045 105 mg/Kg 70 - 13012 20

C10-C28)

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	116		70 - 130

Lab Sample ID: 890-2104-A-3-D MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 21983** 

Prep Type: Total/NA

Prep Batch: 21982

Sample Sample Spike MS MS Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <49.9 U 998 809.3 mg/Kg 79 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 UF1 998 723.2 F1 mg/Kg 69 70 - 130 C10-C28)

MS MS Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 74 o-Terphenyl 80 70 - 130

Lab Sample ID: 890-2104-A-3-E MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

**Analysis Batch: 21983** 

Released to Imaging: 7/6/2022 2:44:10 PM

Prep Type: Total/NA

Prep Batch: 21982

Sample Sample MSD MSD RPD Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit <49.9 U 999 836.1 81 20 Gasoline Range Organics mg/Kg 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 UF1 999 747.9 mg/Kg 70 - 130 3 20

C10-C28)

MSD MSD

Surrogate	%Recovery Qualifier	Limits
1-Chlorooctane	76	70 - 130
o-Terphenyl	82	70 - 130

Job ID: 890-2110-1 Client: WSP USA Inc. Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-22263/1-A

**Matrix: Solid** 

Analysis Batch: 22386

MB MB

Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 03/25/22 19:53

Lab Sample ID: LCS 880-22263/2-A

**Matrix: Solid** 

**Analysis Batch: 22386** 

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 249.9 mg/Kg 100 90 - 110

Lab Sample ID: LCSD 880-22263/3-A

**Matrix: Solid** 

Analysis Batch: 22386

LCSD LCSD %Rec. RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 248.2 mg/Kg 90 - 110

Lab Sample ID: 890-2106-A-1-O MS

**Matrix: Solid** 

**Analysis Batch: 22386** 

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Qualifier %Rec Result Unit Limits Chloride 193 250 427.7 90 - 110 mg/Kg

Lab Sample ID: 890-2106-A-1-P MSD

**Matrix: Solid** 

Analysis Batch: 22386

Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 193 427.5 mg/Kg 94 90 - 110 0 20

#### **QC Association Summary**

Client: WSP USA Inc. Job ID: 890-2110-1 Project/Site: BEU 29 W Vedar 100H SDG: TE01291044

**GC VOA** 

Prep Batch: 21853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2110-1	PH06	Total/NA	Solid	5035	
890-2110-2	PH06A	Total/NA	Solid	5035	
890-2110-3	PH06B	Total/NA	Solid	5035	
MB 880-21853/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21853/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21853/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2105-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
890-2105-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 22182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2110-1	PH06	Total/NA	Solid	8021B	21853
890-2110-2	PH06A	Total/NA	Solid	8021B	21853
890-2110-3	PH06B	Total/NA	Solid	8021B	21853
MB 880-21853/5-A	Method Blank	Total/NA	Solid	8021B	21853
LCS 880-21853/1-A	Lab Control Sample	Total/NA	Solid	8021B	21853
LCSD 880-21853/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21853
890-2105-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	21853
890-2105-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21853

**Analysis Batch: 22297** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2110-1	PH06	Total/NA	Solid	Total BTEX	
890-2110-2	PH06A	Total/NA	Solid	Total BTEX	
890-2110-3	PH06B	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Prep Batch: 21982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2110-1	PH06	Total/NA	Solid	8015NM Prep	
890-2110-2	PH06A	Total/NA	Solid	8015NM Prep	
890-2110-3	PH06B	Total/NA	Solid	8015NM Prep	
MB 880-21982/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21982/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21982/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2104-A-3-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2104-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 21983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2110-1	PH06	Total/NA	Solid	8015B NM	21982
890-2110-2	PH06A	Total/NA	Solid	8015B NM	21982
890-2110-3	PH06B	Total/NA	Solid	8015B NM	21982
MB 880-21982/1-A	Method Blank	Total/NA	Solid	8015B NM	21982
LCS 880-21982/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21982
LCSD 880-21982/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21982
890-2104-A-3-D MS	Matrix Spike	Total/NA	Solid	8015B NM	21982
890-2104-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21982

#### **QC Association Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: TE01291044

#### GC Semi VOA

#### Analysis Batch: 22139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2110-1	PH06	Total/NA	Solid	8015 NM	
890-2110-2	PH06A	Total/NA	Solid	8015 NM	
890-2110-3	PH06B	Total/NA	Solid	8015 NM	
_					

#### **HPLC/IC**

#### Leach Batch: 22263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2110-1	PH06	Soluble	Solid	DI Leach	
890-2110-2	PH06A	Soluble	Solid	DI Leach	
890-2110-3	PH06B	Soluble	Solid	DI Leach	
MB 880-22263/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-22263/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-22263/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2106-A-1-O MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2106-A-1-P MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 22386**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2110-1	PH06	Soluble	Solid	300.0	22263
890-2110-2	PH06A	Soluble	Solid	300.0	22263
890-2110-3	PH06B	Soluble	Solid	300.0	22263
MB 880-22263/1-A	Method Blank	Soluble	Solid	300.0	22263
LCS 880-22263/2-A	Lab Control Sample	Soluble	Solid	300.0	22263
LCSD 880-22263/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	22263
890-2106-A-1-O MS	Matrix Spike	Soluble	Solid	300.0	22263
890-2106-A-1-P MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	22263

**Eurofins Carlsbad** 

-

3

4

6

8

4.6

11

13

Job ID: 890-2110-1

SDG: TE01291044

**Client Sample ID: PH06** 

Client: WSP USA Inc.

Lab Sample ID: 890-2110-1

Matrix: Solid

Date Collected: 03/16/22 09:20 Date Received: 03/18/22 13:03

Project/Site: BEU 29 W Vedar 100H

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			21853	03/23/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22182	03/23/22 16:01	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22297	03/24/22 16:34	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22139	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 19:13	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/26/22 00:01	CH	XEN MID

Client Sample ID: PH06A Lab Sample ID: 890-2110-2

Date Collected: 03/16/22 10:30 Matrix: Solid Date Received: 03/18/22 13:03

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			21853	03/23/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22182	03/23/22 16:22	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22297	03/24/22 16:34	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22139	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 19:33	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/26/22 00:10	CH	XEN MID

Client Sample ID: PH06B Lab Sample ID: 890-2110-3 Date Collected: 03/16/22 12:15

Date Received: 03/18/22 13:03

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			21853	03/23/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22182	03/23/22 16:42	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22297	03/24/22 16:34	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22139	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 19:54	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/26/22 00:19	CH	XEN MID

Laboratory References:

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

**Eurofins Carlsbad** 

**Matrix: Solid** 

#### **Accreditation/Certification Summary**

 Client: WSP USA Inc.
 Job ID: 890-2110-1

 Project/Site: BEU 29 W Vedar 100H
 SDG: TE01291044

#### **Laboratory: Eurofins Midland**

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

Authority	P	rogram	Identification Number	Expiration Date
Texas	N	ELAP	T104704400-21-22	06-30-22
The following analytes the agency does not of		ut the laboratory is not certifi	ied by the governing authority. This list ma	ay include analytes for wh
Analysis Method	Prep Method	Matrix	Analyte	
0045 1114		Solid	Total TPH	
8015 NM		Juliu	IOIAI IPH	

3

4

C

Q

10

12

13

#### **Method Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2110-1

SDG: TE01291044

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

**Eurofins Carlsbad** 

Released to Imaging: 7/6/2022 2:44:10 PM

#### **Sample Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2110-1

SDG: TE01291044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	D
890-2110-1	PH06	Solid	03/16/22 09:20	03/18/22 13:03	1
890-2110-2	PH06A	Solid	03/16/22 10:30	03/18/22 13:03	4
890-2110-3	PH06B	Solid	03/16/22 12:15	03/18/22 13:03	6

## **Chain of Custody**

3		U	Houston,TX	(281) 240-4200	Dallas,T	X (214)	902-03	Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334			
L'A	BORATORIES		NM (575-392-75	50) Phoenix,AZ (	480-355	-0900)	Atlanta,	Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)		www.xenco.com Page	of
Project Manager:	Kalie Jennings		Bi	Bill to: (if different)	Adı	Adrian Baker	κer			Work Order Comments	G
	WSP USA Inc., Permian office	mian office	Co	Company Name:	X	XTO Energy	gy		Program: UST/PST P	PRP Brownfields RAC	C Superfund
	3300 North A St. Bldg 1, Unit 222	dg 1, Unit 222	Ac	Address:	310	3104 E Greene St.	eene S		State of Project: NM		
e ZIP:	Midland, TX 79705		Ci	City, State ZIP:	Ca	Carlsbad, NM	X		Reporting:Level II Lev	Level III AST/UST TARP	L ALIBADIA AN
	781-702-2329		Email: tra	wis.casey@w	sp.com	n kale	jennir	Email: travis.casey@wsp.com, kalei.jennings@wsp.com, dan.moir@ws	Deliverables: EDD	ADaPT	Other:
Project Name:	BEU 29 W	BEU 29 W Vedar 100H	Turn	Turn Around				ANALYSIS REQUEST	EST	Wo	Work Order Notes
Project Number:	TE01	TE01291044	Routine	×						IN nAPP	IN nAPP210831345
P.O. Number:			Rush:		_					CC:	
Sampler's Name:	Ali C	Ali Catsro	Due Date:	fe:						AFE:	
SAMPLE RECEIPT	PT Temp Blank:	ank: Yes No	Wet Ice: (	No No							
Temperature (°C):	9.8	(	Thermometer ID		ners	+	)				
Received Intact:	I W/T		FOO-WA	11	ntai		-	890-2110	890-2110 Chain of Custody		
Cooler Custody Seals:	Yes No	N/A Correc	Correction Factor: -01	2						TAT start	TAT starts the day recevied by the
Sample Custody Seals:	Yes No	N/A Total	Total Containers:			-	-			lab, ii	lab, if received by 4:30pm
Sample Identification	ification Matrix	Date trix Sampled	Time Sampled	Depth	Number	BTEX (	Chlorid			San	Sample Comments
PH01	S	3/16/2022	9:20		×	×	×				Composite
PH01A			10:30	4	×	×	×				Composite
PH01B	8		12:15	6	×	×	×				Composite
							+				
						+					
Total 200.7 / 6010	otal 200.7 / 6010 200.8 / 6020:	유	BRCRA 13PPM	Texas 11		As B	Ba Be	Sh As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo N Sh As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U	I K Se	Ag SiO2 Na Sr TI S	Na Sr Tl Sn ∪ V Zn 1631 / 245.1 / 7470 / 7471 : Hg
									observations and conditions		
Notice: Signature of this do of service. Xenco will be li	ocument and relinquishme able only for the cost of sa ge of \$75.00 will be applie	ant of samples constitues and shall not as amples and shall not as and to each project and a	tes a valid purcha ssume any respon a charge of \$5 for o	se order from clies sibility for any losse each sample subm	nt compa ses or ex itted to X	penses i (enco, bu	nco, its a ncurred at not an	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.	It assigns standard terms and conditions to due to circumstances beyond the control officed unless previously negotiated.		
Relinquished by: (Signature)	(Signature)	Received t	Received by: (Signature)		Da	Date/Time	6	Relinquished by: (Signature)	ture) Received	Received by: (Signature)	Date/Time
		( Jap ( )	100	<b>a</b>	31.8	18-2a		30 Z			
3								4			
ch								6			

Work Order No:

**Eurofins Carlsbad** 

eurofins Environment Testing America

**Chain of Custody Record** 

Carlsbad, NM 88220 Phone 575-988-3199 Fax 575-988-3199			000	touy ivecoid	Š	2				_										America
Client Information (Sub Contract Lab)	Sampler			Lab PM Krame	Lab PM Kramer, Jessica	sica						Carri	Carrier Tracking No(s):	king	lo(s):			<del>∞</del> ○	COC No: 890-675 1	
- 1	Phone:			E-Mail iessic	E-Mail lessica.kramer@eurofinset.com	er@e		S <u>et</u> C	∄			State	State of Origin: New Mexico	3 3				0 0	Page:	
Company Eurofins Environment Testing South Centr				- T	Accreditations Required (See note): NELAP - Louisiana, NELAP	- Lou	equire	d (See	A of e	- Texas	as	Γ	1	1				<del></del>	Job # 890-2110-1	
Address 1211 W Florida Ave,	Due Date Requested 3/24/2022	2.					l		Analy	VSis	sis Requested	lues	ted	ı	l	1	ı	. 0	on Code	<b>(5)</b>
City Midland	TAT Requested (days):	/s):				_		-	$\dashv$							_			A HCL B NaOH C - Zn Acetate	M - Hexane  N None O AsNaO2
State Zip: TX, 79701						TPH													± ë	P - Na2O4S Q Na2SO3
Phone: 432-704-5440(TeI)	PO#:			•	1	) Full											000000000		P	R - Na2S2O3 S H2SO4
Email	WO#:					p (MO	Oblant													U - Acetone V MCAA
Project Name: BEU 29 W VEDAR 100H	Project #: 890000004				SOSTICION S	S_Pre											V2000 Norman	300,000.0	L-EDA	W - pH 4-5 Z other (specify)
Site:	SSOW#:	***************************************				15NM_													Other:	
		Sample (	Sample Type (C=comp,	Matrix (w=water S=solid, O=waste/oli,	eld Filtered S rform MS/M	16MOD_NM/8	15MOD_Calc	0_ORGFM_28 	tal_BTEX_GC									tal Number		
and a state of the	Valley Park		Preservation Code:	5	TENTON 500			,	2000-dd 2000-dd	1					1			X	opecial illa	opecial manucuons/Note:
PH01 (890-2110-1)	3/16/22	09 20 Mountain		Solid		×	×	×	×								u.v.u.isba	-		
PH01A (890-2110-2)	3/16/22	10 30 Mountain		Solid		×	×	×	×	•								1		
PH01B (890-2110-3)	3/16/22	12 15 Mountain		Solid		×	×	×	×									4		
							_	_		-										
							-	-	-+	-										
Note Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central 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/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided. Any changes to	Testing South Centra	I LLC places th	e ownership of	f method analy	te & acc	reditat	the Et	npliano	e upoi	n out s	ubcon	ract la	borate th Cer	ntral L	This s	ample	shipm	nent is	s forwarded under cha	in-of-custody If the vided. Any changes to
Possible Hazard Identification					Sar	Sample Disposal ( A fee	Dispo	sal (	A fe	e ma	□be	asse	sed	if sa	, ale	_ ar	⊔ğ	ine	may be assessed if samples are retained longer than 1 month)	month)
Deliverable Requested I II III IV Other (specify)	Primary Deliverable Rank.	ble Rank. 2			Spe	Special Instructions/QC Requirements	al Instructions/QC	tions	ò	equ	reme	ints			ľ					
Empty Kit Relinquished by		Date			Time.		ı	-	_				Meth	Method of Shipment:	Shipm	ent:				
Relinquished by $lw31522$	Date/Time <sup>,</sup>		O	Company		Received by	ed by	K	4	′					\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Jame:	12	12	8.00	Company
Relinquished by	Date/Time.		0	Company		Receiv	Received by:	No.							Date/filme	i ime	1		6	Company
Relinquished by	Date/Time <sup>-</sup>		O	Company		Receiv	Received by:								Date/	Date/Time:				Company
Custody Seals Intact. Custody Seal No						Coole	Cooler Temperature(s) °C a	eratur	)° (s)¢	and C	nd Other Remarks:	emark	ş.							

Ver 06/08/2021

#### **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-2110-1

SDG Number: TE01291044

List Source: Eurofins Carlsbad

Login Number: 2110 List Number: 1 Creator: Clifton, Cloe

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

4

J

4

6

8

11

13

#### **Login Sample Receipt Checklist**

Client: WSP USA Inc. Job Number: 890-2110-1

SDG Number: TE01291044

Login Number: 2110 **List Source: Eurofins Midland** List Number: 2 List Creation: 03/21/22 08:56 AM

Creator: Lowe, Katie

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	True	

Released to Imaging: 7/6/2022 2:44:10 PM

<6mm (1/4").



### **Environment Testing America**

#### **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2105-1

Laboratory Sample Delivery Group: te01291044 Client Project/Site: BEU 29 W Vedar 100H

For:

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

Attn: Kalei Jennings

MRAMER

Authorized for release by: 3/28/2022 4:44:33 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

LINKS .....

Review your project results through

**Have a Question?** 



Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 7/6/2022 2:44:10 PM

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.

1

\_

3

6

7

8

10

12

Client: WSP USA Inc. Laboratory Job ID: 890-2105-1 Project/Site: BEU 29 W Vedar 100H SDG: te01291044

#### **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	14
Lab Chronicle	16
Certification Summary	18
Method Summary	19
Sample Summary	20
Chain of Custody	21
Receipt Charklists	23

#### **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-2105-1 Project/Site: BEU 29 W Vedar 100H

SDG: te01291044

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

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

GC Semi VOA

Qualifier **Qualifier Description** 

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

HPLC/IC

Qualifier **Qualifier Description** 

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 **Practical Quantitation Limit** PQL

**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: BEU 29 W Vedar 100H

Job ID: 890-2105-1

SDG: te01291044

Job ID: 890-2105-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2105-1

#### Receipt

The samples were received on 3/18/2022 1:08 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 0.6°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

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.

2

4

0

0

9

10

10

13

Client: WSP USA Inc. Job ID: 890-2105-1

Project/Site: BEU 29 W Vedar 100H SDG: te01291044

Client Sample ID: PH09

Date Collected: 03/17/22 13:50

Lab Sample ID: 890-2105-1

Matrix: Solid

Date Received: 03/18/22 13:08

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		03/23/22 10:00	03/23/22 11:31	1
Toluene	< 0.00202	U	0.00202	mg/Kg		03/23/22 10:00	03/23/22 11:31	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		03/23/22 10:00	03/23/22 11:31	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		03/23/22 10:00	03/23/22 11:31	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		03/23/22 10:00	03/23/22 11:31	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		03/23/22 10:00	03/23/22 11:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			03/23/22 10:00	03/23/22 11:31	1
1,4-Difluorobenzene (Surr)	111		70 - 130			03/23/22 10:00	03/23/22 11:31	1
<b>Method: Total BTEX - Total</b>	BTEX Calcula	tion						
Method: Total BTEX - Total Analyte		tion Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte		Qualifier	RL	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 03/23/22 14:43	Dil Fac
Analyte Total BTEX   Method: 8015 NM - Diesel	Result <0.00404	Qualifier U	0.00404 GC)	mg/Kg			03/23/22 14:43	1
Analyte Total BTEX  Method: 8015 NM - Diesel   Analyte	Result <0.00404  Range Organic Result	Qualifier U es (DRO) (C	0.00404 GC)	mg/Kg	<u>D</u>	Prepared Prepared	03/23/22 14:43  Analyzed	Dil Fac
Analyte Total BTEX  Method: 8015 NM - Diesel	Result <0.00404	Qualifier U es (DRO) (C	0.00404 GC)	mg/Kg			03/23/22 14:43	1
Analyte Total BTEX  Method: 8015 NM - Diesel   Analyte	Result   <0.00404	Qualifier U  SS (DRO) (CO) Qualifier U	0.00404  GC)  RL  50.0	mg/Kg			03/23/22 14:43  Analyzed	1
Analyte Total BTEX  Method: 8015 NM - Diesel   Analyte Total TPH  Method: 8015B NM - Diese	Result <0.00404  Range Organic Result <50.0	Qualifier U  SS (DRO) (CO) Qualifier U	0.00404  GC)  RL  50.0	mg/Kg			03/23/22 14:43  Analyzed	Dil Fac
Analyte Total BTEX  Method: 8015 NM - Diesel   Analyte Total TPH	Result <0.00404  Range Organic Result <50.0	Qualifier U  S (DRO) (C Qualifier U  ics (DRO) Qualifier	0.00404  GC)  RL  50.0  (GC)	mg/Kg  Unit mg/Kg	<u>D</u>	Prepared	03/23/22 14:43  Analyzed  03/22/22 10:41	1

Surrogate 1-Chlorooctane	%Recovery 83	Qualifier	Limits 70 - 130		<b>Prepared</b> 03/21/22 09:09	Analyzed 03/21/22 15:04	Dil Fac
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg	03/21/22 09:09	03/21/22 15:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg	03/21/22 09:09	03/21/22 15:04	1
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg	03/21/22 09:09	03/21/22 15:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble								
	Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	321	5.05	mg/Kg			03/25/22 21:48	1

70 - 130

101

Client Sample ID: PH09A

Date Collected: 03/17/22 14:05

Lab Sample ID: 890-2105-2

Matrix: Solid

Date Received: 03/18/22 13:08

Sample Depth: 3

o-Terphenyl

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 11:52	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 11:52	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 11:52	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		03/23/22 10:00	03/23/22 11:52	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 11:52	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/23/22 10:00	03/23/22 11:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			03/23/22 10:00	03/23/22 11:52	1

**Eurofins Carlsbad** 

03/21/22 09:09 03/21/22 15:04

Client: WSP USA Inc.

Job ID: 890-2105-1 Project/Site: BEU 29 W Vedar 100H SDG: te01291044

**Client Sample ID: PH09A** Lab Sample ID: 890-2105-2

Date Collected: 03/17/22 14:05 **Matrix: Solid** Date Received: 03/18/22 13:08

Sample Depth: 3

Surrogate	%Recovery	Qualifier Lin	mits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	109	70		03/23/22 10:00	03/23/22 11:52	1

#### **Method: Total BTEX - Total BTEX Calculation**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00401	U	0.00401	ma/Ka			03/23/22 14:43	1

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

Analyte	Result C	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9 L	U	49.9	mg/Kg			03/22/22 10:41	1

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

		()	\ <del>-</del> - /					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/21/22 09:09	03/21/22 15:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/21/22 09:09	03/21/22 15:25	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/21/22 09:09	03/21/22 15:25	1
Surrogate	%Recovery	Qualifier	l imite			Propared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	76		70 - 130	03/21/22 09:09	03/21/22 15:25	1
o-Terphenyl	90		70 - 130	03/21/22 09:09	03/21/22 15:25	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qu	ualifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	107	4.98	mg/Kg			03/25/22 21:57	1

**Client Sample ID: PH09B** Lab Sample ID: 890-2105-3 **Matrix: Solid** 

Date Collected: 03/17/22 14:45 Date Received: 03/18/22 13:08

Sample Depth: 6

Mothod: 9021B	Volatile	Organic	Compounds	(CC)

Welliou. Ouz ID - Volatile O	rgariic Compo	ulius (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 12:13	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 12:13	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 12:13	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		03/23/22 10:00	03/23/22 12:13	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/23/22 10:00	03/23/22 12:13	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/23/22 10:00	03/23/22 12:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			03/23/22 10:00	03/23/22 12:13	1
1 4-Difluorobenzene (Surr)	113		70 - 130			03/23/22 10:00	03/23/22 12:13	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00401	U	0.00401	mg/Kg			03/23/22 14:43	1

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

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0 U	50.0	mg/Kg		_	03/22/22 10:41	1

Client: WSP USA Inc. Job ID: 890-2105-1 SDG: te01291044

Project/Site: BEU 29 W Vedar 100H

**Client Sample ID: PH09B** Lab Sample ID: 890-2105-3 Date Collected: 03/17/22 14:45 **Matrix: Solid** Date Received: 03/18/22 13:08

Sample Depth: 6

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 15:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 15:46	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 15:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130			03/21/22 09:09	03/21/22 15:46	1
o-Terphenyl	97		70 - 130			03/21/22 09:09	03/21/22 15:46	1
-			de Le					
Method: 300.0 - Anions, Ion C	hromatogra	ıphy - Solı	ibie					
Method: 300.0 - Anions, Ion C Analyte	_	iphy - Solu Qualifier	IDIE RL	Unit	D	Prepared	Analyzed	Dil Fac

Client Sample ID: PH09C Lab Sample ID: 890-2105-4 Date Collected: 03/17/22 14:55 **Matrix: Solid** 

Date Received: 03/18/22 13:08

Sample Depth: 7

					_			
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	-	0.00201	mg/Kg		03/23/22 10:00	03/23/22 12:33	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/23/22 10:00	03/23/22 12:33	1
Ethylbenzene	< 0.00201	U	0.00201	mg/Kg		03/23/22 10:00	03/23/22 12:33	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		03/23/22 10:00	03/23/22 12:33	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/23/22 10:00	03/23/22 12:33	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/23/22 10:00	03/23/22 12:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			03/23/22 10:00	03/23/22 12:33	1
1,4-Difluorobenzene (Surr)	113		70 - 130			03/23/22 10:00	03/23/22 12:33	1
Method: Total BTEX - Total B	ΓEX Calcula	tion						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b></b>								
Total BTEX	<0.00402	U	0.00402	mg/Kg			03/23/22 14:43	1
Total BTEX				mg/Kg			03/23/22 14:43	1
				mg/Kg			03/23/22 14:43	1
Total BTEX	nge Organic			mg/Kg Unit		Prepared	03/23/22 14:43 Analyzed	1 Dil Fac
Total BTEX  Method: 8015 NM - Diesel Rar	nge Organic	s (DRO) (O	GC)	0 0	D	Prepared		·
Total BTEX  Method: 8015 NM - Diesel Rar  Analyte  Total TPH	nge Organic Result <50.0	s (DRO) (O Qualifier U	RL 50.0	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Total BTEX  Method: 8015 NM - Diesel Rar Analyte	nge Organic Result <50.0	s (DRO) (O Qualifier U	RL 50.0	Unit		Prepared Prepared	Analyzed	Dil Fac
Total BTEX  Method: 8015 NM - Diesel Rar Analyte  Total TPH  Method: 8015B NM - Diesel Ra	nge Organic Result <50.0	s (DRO) (O Qualifier U	RL 50.0	Unitmg/Kg		<u> </u>	Analyzed 03/22/22 10:41	Dil Fac
Total BTEX  Method: 8015 NM - Diesel Rar Analyte Total TPH  Method: 8015B NM - Diesel Rar Analyte Gasoline Range Organics	nge Organic Result <50.0 ange Organi Result	S (DRO) (O Qualifier U	RL 50.0 (GC)	Unit mg/Kg		Prepared 03/21/22 09:09	Analyzed 03/22/22 10:41 Analyzed	Dil Fac
Method: 8015 NM - Diesel Rar Analyte Total TPH  Method: 8015B NM - Diesel Rar Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	nge Organic Result <50.0 ange Organi Result <50.0	s (DRO) (O Qualifier U ics (DRO) Qualifier U	(GC)  RL  50.0  RL  50.0	Unit mg/Kg  Unit mg/Kg		Prepared 03/21/22 09:09 03/21/22 09:09	Analyzed 03/22/22 10:41  Analyzed 03/21/22 16:06	Dil Fac  Dil Fac  1
Total BTEX  Method: 8015 NM - Diesel Rar Analyte  Total TPH  Method: 8015B NM - Diesel Rar Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	nge Organic Result <50.0 ange Organi Result <50.0 <50.0	s (DRO) (C Qualifier U ics (DRO) Qualifier U	(GC)  RL  50.0  RL  50.0  50.0	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 03/21/22 09:09 03/21/22 09:09	Analyzed 03/22/22 10:41  Analyzed 03/21/22 16:06 03/21/22 16:06	Dil Fac  Dil Fac  1  1
Total BTEX  Method: 8015 NM - Diesel Rar Analyte  Total TPH  Method: 8015B NM - Diesel Rar Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	rige Organic Result <50.0  ange Organic Result <50.0 <50.0 <50.0	s (DRO) (C Qualifier U ics (DRO) Qualifier U	GC) RL 50.0  (GC) RL 50.0  50.0  50.0	Unit mg/Kg  Unit mg/Kg  mg/Kg		Prepared 03/21/22 09:09 03/21/22 09:09 03/21/22 09:09	Analyzed 03/22/22 10:41  Analyzed 03/21/22 16:06 03/21/22 16:06 03/21/22 16:06	Dil Fac  Dil Fac  1  1  1

#### **Client Sample Results**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

SDG: te01291044

Client Sample ID: PH09C Lab Sample ID: 890-2105-4

Date Collected: 03/17/22 14:55 Matrix: Solid

Date Received: 03/18/22 13:08 Sample Depth: 7

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	112		5.05	mg/Kg			03/28/22 14:22	1

4

6

\_

9

11

13

#### **Surrogate Summary**

Client: WSP USA Inc. Job ID: 890-2105-1 Project/Site: BEU 29 W Vedar 100H SDG: te01291044

Method: 8021B - Volatile Organic Compounds (GC)

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

			Percen	t Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-2105-1	PH09	108	111	
890-2105-1 MS	PH09	52 S1-	104	
890-2105-1 MSD	PH09	98	109	
890-2105-2	PH09A	107	109	
890-2105-3	PH09B	116	113	
890-2105-4	PH09C	115	113	
LCS 880-21853/1-A	Lab Control Sample	98	102	
LCSD 880-21853/2-A	Lab Control Sample Dup	100	107	
MB 880-21853/5-A	Method Blank	120	96	
Surrogate Legend				

DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)						
		1CO1	OTPH1					
Lab Sample ID	Client Sample ID	(70-130)	(70-130)					
890-2104-A-3-D MS	Matrix Spike	74	80					
890-2104-A-3-E MSD	Matrix Spike Duplicate	76	82					
890-2105-1	PH09	83	101					
890-2105-2	PH09A	76	90					
890-2105-3	PH09B	80	97					
890-2105-4	PH09C	41 S1-	50 S1-					

Surrogate Legend

1CO = 1-Chlorooctane OTPH = o-Terphenyl

OTPH = o-Terphenyl

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

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

		Percent Surrogate Recovery (Acceptance Limits)						
		1CO2	OTPH2					
ab Sample ID	Client Sample ID	(70-130)	(70-130)					
.CS 880-21982/2-A	Lab Control Sample	94	111					
LCSD 880-21982/3-A	Lab Control Sample Dup	96	116					
MB 880-21982/1-A	Method Blank	85	105					
Surrogate Legend								
1CO = 1-Chlorooctane								

Client: WSP USA Inc.

Job ID: 890-2105-1

Project/Site: BEU 29 W Vedar 100H

SDG: te01291044

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21853/5-A

**Matrix: Solid** 

**Analysis Batch: 22182** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21853

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/23/22 07:30	03/23/22 11:09	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/23/22 07:30	03/23/22 11:09	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	03/23/22 07:30 03/23/22 11:09	1
1,4-Difluorobenzene (Surr)	96		70 - 130	03/23/22 07:30 03/23/22 11:09	1

Lab Sample ID: LCS 880-21853/1-A

**Matrix: Solid** 

**Analysis Batch: 22182** 

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 21853

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1060		mg/Kg		106	70 - 130	
Toluene	0.100	0.08963		mg/Kg		90	70 - 130	
Ethylbenzene	0.100	0.09757		mg/Kg		98	70 - 130	
m-Xylene & p-Xylene	0.200	0.2096		mg/Kg		105	70 - 130	
o-Xylene	0.100	0.1034		mg/Kg		103	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: LCSD 880-21853/2-A

**Matrix: Solid** 

**Analysis Batch: 22182** 

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

%Rec

98

89

Prep Batch: 21853

Spike LCSD LCSD **RPD** %Rec. Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit Benzene 0.100 0.1111 mg/Kg 111 70 - 130 5 35 Toluene 0.100 0.08944 mg/Kg 89 70 - 130 0 35 Ethylbenzene 0.100 0.09503 mg/Kg 95 70 - 130 3 35 0.200 m-Xylene & p-Xylene 0.2047 mg/Kg 102 70 - 130 2 35 0.100 0.1019 102 70 - 130 35 o-Xylene mg/Kg

LCSD LCSD

Sample Sample

<0.00202 U

<0.00202 U

Result Qualifier

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 890-2105-1 MS

**Matrix: Solid** 

Analyte

Benzene

Toluene

**Analysis Batch: 22182** 

Client Sample ID: PH09 Prep Type: Total/NA Prep Batch: 21853

%Rec. Limits 70 - 130

70 - 130

**Eurofins Carlsbad** 

MS MS

0.09756

0.08866

Result Qualifier

Unit

mg/Kg

mg/Kg

Spike

Added

0.0996

0.0996

2

4

6

Я

10

12

13

#### **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-2105-1 Project/Site: BEU 29 W Vedar 100H SDG: te01291044

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

Lab Sample ID: 890-2105-1 MS **Matrix: Solid** 

**Analysis Batch: 22182** 

**Client Sample ID: PH09 Prep Type: Total/NA** 

Prep Batch: 21853

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00202	U	0.0996	0.1010		mg/Kg		101	70 - 130	
m-Xylene & p-Xylene	<0.00404	U	0.199	0.2233		mg/Kg		112	70 - 130	
o-Xylene	<0.00202	U	0.0996	0.1109		mg/Kg		111	70 - 130	

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	52	S1-	70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

**Client Sample ID: PH09** 

Prep Type: Total/NA

Prep Batch: 21853

**Matrix: Solid** 

**Analysis Batch: 22182** 

Lab Sample ID: 890-2105-1 MSD

Alialysis Datell. 22 lo2									I I CP L	Jacon. 1	
-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00202	U	0.100	0.1038		mg/Kg		103	70 - 130	6	35
Toluene	<0.00202	U	0.100	0.08314		mg/Kg		83	70 - 130	6	35
Ethylbenzene	<0.00202	U	0.100	0.08960		mg/Kg		90	70 - 130	12	35
m-Xylene & p-Xylene	<0.00404	U	0.200	0.1934		mg/Kg		97	70 - 130	14	35
o-Xylene	<0.00202	U	0.100	0.09686		mg/Kg		97	70 - 130	14	35
I and the second											

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

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

Lab Sample ID: MB 880-21982/1-A

**Matrix: Solid** 

**Analysis Batch: 21983** 

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21982

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	Ū	50.0	mg/Kg		03/21/22 09:09	03/21/22 10:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 10:51	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/21/22 09:09	03/21/22 10:51	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	03/21/22 09:09	03/21/22 10:51	1
o-Terphenyl	105		70 - 130	03/21/22 09:09	03/21/22 10:51	1

Lab Sample ID: LCS 880-21982/2-A

**Matrix: Solid** 

**Analysis Batch: 21983** 

Client Sample	D: Lab Control Sample
	Prep Type: Total/NA

Prep Batch: 21982

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	852.9		mg/Kg		85	70 - 130	 
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	924.6		mg/Kg		92	70 - 130	
C10-C28)								

Client: WSP USA Inc. Job ID: 890-2105-1 Project/Site: BEU 29 W Vedar 100H SDG: te01291044

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

Lab Sample ID: LCS 880-21982/2-A

Lab Sample ID: LCSD 880-21982/3-A

**Matrix: Solid** 

**Analysis Batch: 21983** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 21982

LCS LCS Surrogate %Recovery Qualifier

Limits 1-Chlorooctane 94 70 - 130 o-Terphenyl 111 70 - 130

**Client Sample ID: Lab Control Sample Dup** 

**Prep Type: Total/NA** 

Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid Analysis Batch: 21983** Prep Batch: 21982

LCSD LCSD RPD %Rec. Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics 1000 990.5 mg/Kg 99 70 - 130 15 20 (GRO)-C6-C10 Diesel Range Organics (Over 1000 1045 mg/Kg 105 70 - 130 12 20 C10-C28)

LCSD LCSD

%Recovery Qualifier Surrogate Limits 1-Chlorooctane 96 70 - 130 70 - 130 o-Terphenyl 116

Lab Sample ID: 890-2104-A-3-D MS **Client Sample ID: Matrix Spike Prep Type: Total/NA** 

**Matrix: Solid** 

**Analysis Batch: 21983** Prep Batch: 21982 Sample Sample Spike MS MS %Rec.

Result Qualifier Added Result Qualifier Limits Analyte Unit D %Rec Ū Gasoline Range Organics <49.9 998 809.3 mg/Kg 79 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over 998 <49.9 UF1 723.2 F1 mg/Kg 69 70 - 130

C10-C28)

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 74 o-Terphenyl 80 70 - 130

Lab Sample ID: 890-2104-A-3-E MSD

**Matrix: Solid** 

**Analysis Batch: 21983** 

Prep Batch: 21982 Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Limits **RPD** Limit **Analyte** Unit D %Rec Gasoline Range Organics <49.9 U 999 836.1 81 70 - 130 3 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <49.9 UF1 999 747.9 mg/Kg 71 70 - 130 3 20

C10-C28)

MSD MSD %Recovery Qualifier Limits Surrogate 1-Chlorooctane 76 70 - 130 o-Terphenyl 82 70 - 130

**Eurofins Carlsbad** 

Prep Type: Total/NA

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

**Client Sample ID: Matrix Spike Duplicate** 

**Client Sample ID: Matrix Spike Duplicate** 

**Prep Type: Soluble** 

**Client Sample ID: Matrix Spike** 

**Client Sample ID: Matrix Spike** 

Client: WSP USA Inc. Job ID: 890-2105-1 Project/Site: BEU 29 W Vedar 100H SDG: te01291044

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-22263/1-A

**Matrix: Solid** 

**Analysis Batch: 22386** 

MB MB

Result Qualifier RL Unit D Analyzed Dil Fac Analyte Prepared 5.00 03/25/22 19:53 Chloride <5.00 U mg/Kg

Lab Sample ID: LCS 880-22263/2-A

**Matrix: Solid** 

**Analysis Batch: 22386** 

Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits Analyte 250 90 - 110 Chloride 249.9 mg/Kg 100

Lab Sample ID: LCSD 880-22263/3-A

**Matrix: Solid** 

**Analysis Batch: 22386** 

Spike LCSD LCSD %Rec. **RPD** Added Result Qualifier Limits **RPD Analyte** Unit %Rec Limit Chloride 250 248.2 99 90 - 110 20 mg/Kg

Lab Sample ID: 880-12550-A-8-K MS

**Matrix: Solid** 

**Analysis Batch: 22386** 

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 249 250.1 5.71 mg/Kg 98 90 - 110

Lab Sample ID: 880-12550-A-8-L MSD

**Matrix: Solid** 

**Analysis Batch: 22386** 

MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added Limits RPD Result Qualifier Unit %Rec Limit Chloride 249 255.7 100 90 - 110 5 71 mg/Kg

Lab Sample ID: 890-2106-A-1-O MS

**Matrix: Solid** 

**Analysis Batch: 22386** 

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier %Rec Limits Analyte Unit D 250 Chloride 193 427.7 mg/Kg 94 90 - 110

Lab Sample ID: 890-2106-A-1-P MSD

Released to Imaging: 7/6/2022 2:44:10 PM

**Matrix: Solid** 

**Analysis Batch: 22386** 

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Analyte Result Qualifier Limits RPD Limit Unit D %Rec Chloride 250 427.5 193 mg/Kg 94 90 - 110 0

#### **QC Association Summary**

Job ID: 890-2105-1 Client: WSP USA Inc. Project/Site: BEU 29 W Vedar 100H SDG: te01291044

**GC VOA** 

Prep Batch: 21853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2105-1	PH09	Total/NA	Solid	5035	
890-2105-2	PH09A	Total/NA	Solid	5035	
890-2105-3	PH09B	Total/NA	Solid	5035	
890-2105-4	PH09C	Total/NA	Solid	5035	
MB 880-21853/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21853/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21853/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2105-1 MS	PH09	Total/NA	Solid	5035	
890-2105-1 MSD	PH09	Total/NA	Solid	5035	

**Analysis Batch: 22182** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2105-1	PH09	Total/NA	Solid	8021B	21853
890-2105-2	PH09A	Total/NA	Solid	8021B	21853
890-2105-3	PH09B	Total/NA	Solid	8021B	21853
890-2105-4	PH09C	Total/NA	Solid	8021B	21853
MB 880-21853/5-A	Method Blank	Total/NA	Solid	8021B	21853
LCS 880-21853/1-A	Lab Control Sample	Total/NA	Solid	8021B	21853
LCSD 880-21853/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21853
890-2105-1 MS	PH09	Total/NA	Solid	8021B	21853
890-2105-1 MSD	PH09	Total/NA	Solid	8021B	21853

**Analysis Batch: 22224** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2105-1	PH09	Total/NA	Solid	Total BTEX	
890-2105-2	PH09A	Total/NA	Solid	Total BTEX	
890-2105-3	PH09B	Total/NA	Solid	Total BTEX	
890-2105-4	PH09C	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Prep Batch: 21982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2105-1	PH09	Total/NA	Solid	8015NM Prep	·
890-2105-2	PH09A	Total/NA	Solid	8015NM Prep	
890-2105-3	PH09B	Total/NA	Solid	8015NM Prep	
890-2105-4	PH09C	Total/NA	Solid	8015NM Prep	
MB 880-21982/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21982/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21982/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2104-A-3-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2104-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

**Analysis Batch: 21983** 

Released to Imaging: 7/6/2022 2:44:10 PM

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2105-1	PH09	Total/NA	Solid	8015B NM	21982
890-2105-2	PH09A	Total/NA	Solid	8015B NM	21982
890-2105-3	PH09B	Total/NA	Solid	8015B NM	21982
890-2105-4	PH09C	Total/NA	Solid	8015B NM	21982
MB 880-21982/1-A	Method Blank	Total/NA	Solid	8015B NM	21982
LCS 880-21982/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21982

#### **QC Association Summary**

Job ID: 890-2105-1 Client: WSP USA Inc. Project/Site: BEU 29 W Vedar 100H SDG: te01291044

#### GC Semi VOA (Continued)

#### **Analysis Batch: 21983 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-21982/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21982
890-2104-A-3-D MS	Matrix Spike	Total/NA	Solid	8015B NM	21982
890-2104-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21982

#### **Analysis Batch: 22136**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2105-1	PH09	Total/NA	Solid	8015 NM	
890-2105-2	PH09A	Total/NA	Solid	8015 NM	
890-2105-3	PH09B	Total/NA	Solid	8015 NM	
890-2105-4	PH09C	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 22263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2105-1	PH09	Soluble	Solid	DI Leach	
890-2105-2	PH09A	Soluble	Solid	DI Leach	
890-2105-3	PH09B	Soluble	Solid	DI Leach	
890-2105-4	PH09C	Soluble	Solid	DI Leach	
MB 880-22263/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-22263/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-22263/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12550-A-8-K MS	Matrix Spike	Soluble	Solid	DI Leach	
880-12550-A-8-L MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-2106-A-1-O MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2106-A-1-P MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 22386**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2105-1	PH09	Soluble	Solid	300.0	22263
890-2105-2	PH09A	Soluble	Solid	300.0	22263
890-2105-3	PH09B	Soluble	Solid	300.0	22263
890-2105-4	PH09C	Soluble	Solid	300.0	22263
MB 880-22263/1-A	Method Blank	Soluble	Solid	300.0	22263
LCS 880-22263/2-A	Lab Control Sample	Soluble	Solid	300.0	22263
LCSD 880-22263/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	22263
880-12550-A-8-K MS	Matrix Spike	Soluble	Solid	300.0	22263
880-12550-A-8-L MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	22263
890-2106-A-1-O MS	Matrix Spike	Soluble	Solid	300.0	22263
890-2106-A-1-P MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	22263

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2105-1 SDG: te01291044

Client Sample ID: PH09

Date Received: 03/18/22 13:08

Client: WSP USA Inc.

Date Collected: 03/17/22 13:50

Lab Sample ID: 890-2105-1

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			21853	03/23/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22182	03/23/22 11:31	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22224	03/23/22 14:43	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22136	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 15:04	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/25/22 21:48	CH	XEN MID

**Client Sample ID: PH09A** Lab Sample ID: 890-2105-2 Date Collected: 03/17/22 14:05 **Matrix: Solid** 

Date Received: 03/18/22 13:08

Batch Batch Dilution Batch **Prepared Prep Type** Method Number or Analyzed Type Run **Factor** Analyst Lab Total/NA Prep 5035 21853 03/23/22 10:00 KL XEN MID Total/NA 8021B XEN MID 22182 03/23/22 11:52 KL Analysis 1 Total/NA Total BTEX 22224 03/23/22 14:43 AJ XEN MID Analysis 1 Total/NA 8015 NM 22136 03/22/22 10:41 AJ **XEN MID** Analysis 1 Total/NA Prep 8015NM Prep 21982 03/21/22 09:09 DM XEN MID Total/NA 8015B NM 21983 03/21/22 15:25 AJ **XEN MID** Analysis 1 Soluble 22263 03/24/22 10:27 SC XEN MID Leach DI Leach Soluble 300.0 22386 03/25/22 21:57 CH XEN MID Analysis 1

Client Sample ID: PH09B Lab Sample ID: 890-2105-3 Date Collected: 03/17/22 14:45 **Matrix: Solid** 

Date Received: 03/18/22 13:08

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			21853	03/23/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22182	03/23/22 12:13	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22224	03/23/22 14:43	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	22136	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 15:46	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/28/22 14:13	CH	XEN MI

**Client Sample ID: PH09C** Lab Sample ID: 890-2105-4 Date Collected: 03/17/22 14:55 Matrix: Solid

Date Received: 03/18/22 13:08

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			21853	03/23/22 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	22182	03/23/22 12:33	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	22224	03/23/22 14:43	AJ	XEN MID

#### **Lab Chronicle**

Client: WSP USA Inc. Job ID: 890-2105-1 Project/Site: BEU 29 W Vedar 100H SDG: te01291044

**Client Sample ID: PH09C** Lab Sample ID: 890-2105-4

Matrix: Solid

Date Collected: 03/17/22 14:55 Date Received: 03/18/22 13:08

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	22136	03/22/22 10:41	AJ	XEN MID
Total/NA	Prep	8015NM Prep			21982	03/21/22 09:09	DM	XEN MID
Total/NA	Analysis	8015B NM		1	21983	03/21/22 16:06	AJ	XEN MID
Soluble	Leach	DI Leach			22263	03/24/22 10:27	SC	XEN MID
Soluble	Analysis	300.0		1	22386	03/28/22 14:22	CH	XEN MID

#### **Laboratory References:**

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

#### **Accreditation/Certification Summary**

Client: WSP USA Inc. Job ID: 890-2105-1 Project/Site: BEU 29 W Vedar 100H SDG: te01291044

#### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NI	ELAP	T104704400-21-22	06-30-22
The following englyte	o are included in this ren	art but the laboratory is r	and portified by the governing outbority	This list may include analytee for
,	•	ort, but the laboratory is i	not certified by the governing authority.	This list may include analytes for
the agency does not	offer certification.	•	, , ,	This list may include analytes for
,	•	Matrix	Analyte	This list may include analytes for
the agency does not	offer certification.	•	, , ,	This list may include analytes for

#### **Method Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2105-1

SDG: te01291044

Laboratory	
XEN MID	
XEN MID	

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

#### **Protocol References:**

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

#### **Sample Summary**

Client: WSP USA Inc.

Project/Site: BEU 29 W Vedar 100H

Job ID: 890-2105-1

SDG: te01291044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2105-1	PH09	Solid	03/17/22 13:50	03/18/22 13:08	1
890-2105-2	PH09A	Solid	03/17/22 14:05	03/18/22 13:08	3
890-2105-3	PH09B	Solid	03/17/22 14:45	03/18/22 13:08	6
890-2105-4	PH09C	Solid	03/17/22 14:55	03/18/22 13:08	7

3

4

6

8

9

4 4

12

10

# Chain of Custody

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

		6								5
		4		0		1	A CA			3/19/2
		9	و ا ا	0		>	XV.	1		1
(Signature) Date/Time	ure) Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Dat	ure)	by: (Signature)	Received by:	\	y: (Signature)	Relinquished by: (Signature)
	nforced unless previously negotiated.	zed. These terms will be enforced unli	nco, but not analy	bmitted to Xer	for each sample su	a charge of \$5	ach project and	l be applied to s	arge of \$75.00 wi	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.
	It assigns standard terms and conditions e due to circumstances beyond the control	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 samples and shall not secure any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control	to Xenco, its affile	lient company	chase order from c	utes a valid pu	samples constit	inquishment of	document and re	Notice: Signature of this
1631/243.1/4/0//4/1. 19	in Mo Ni Se Ag II O	Cd Cr Co Cu Pb Mn Mo N	Ва Ве	CHA Sb As	TCLP / SPLP 6010: 8RCRA	TCLP / SP	alyzed	I(s) to be ar	d(s) and Meta	Circle Method(s) and Metal(s) to be analyzed
SiO2	li K Se Ag	Fe	Ba Be	dS	13PPM Texas 11	8RCRA 13F		200.8 / 6020:	010 200.E	Total 200.7 / 6010
			+							
				-						
Composite			×	×	7	14:55	3/17/2022	S	4C	PHO4C
Composite			×	×	6	14:45	3/17/2022	S	4B	PH04B
Composite			×	×	ω	14:05	3/17/2022	S	4A	PH04A
Composite			×	×		13:50	3/17/2022	S	04	PH04
			$\vdash$			Sampled	Sampled			
Sample Comments			EX (I	ımbe	Depth	Time	Date	Matrix	ntification	Sample Identification
lab, if received by 4:30pm			H			Total Containers:	Tota	NO (N/A)	L	Sample Custody Seals:
TAT starts the day recevied by the			-	-	-0.7	Correction Factor:	Corre	No OHA	ls: Yes	Cooler Custody Seals:
	890-2105 Chain of Custody	890-210	-	_	<u>F</u>	MM	1	۳	(eg	Received Intact:
			)	ners	<del>i</del> (	Thermometer ID		18.6	0.3	Temperature (°C):
					(fes) No	Wet Ice:	(yes) No	Temp Blank:		SAMPLE RECEIPT
AFE:					Due Date:	Due	70	Ali Catsro		Sampler's Name:
000		-				Rush:				P.O. Number:
IN nAPP210831345					ine X	Routine	044	TE01291044		Project Number:
Work Order Notes	EST	· ANALYSIS REQUEST			Turn Around	Т	dar 100H	BEU 29 W Vedar 100H	BE	Project Name:
ADaPT  Other:	Deliverables: EDD	s@wsp.com, dan.moir@ws	kalei.jenning	wsp.com,	Email: travis.casey@wsp.com, kalei.jennings@wsp.com,	Email		29	781-702-2329	Phone:
BST/UST TPH	Reporting:Level III		Carlsbad, NM	Carls	City, State ZIP:			79705	Midland, TX 79705	City, State ZIP:
	State of Project: NM		3104 E Greene St.	3104	Address:		, Unit 222	A St. Bldg 1	3300 North A St. Bldg 1, Unit 222	Address:
Brownfields RAC Superfund	Program: UST/PST PRP		XTO Energy		Company Name:		n office	nc., Permiai	WSP USA Inc., Permian office	Company Name:
Work Order Comments	Work		Adrian Baker		Bill to: (if different)			gs	Kalie Jennings	Project Manager:
nco.com Page / of /	20-2000) www.xenco.com	Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)	900) Atlanta,G/	Z (480-355-C	-7550) Phoenix,A	,NM (575-392	Hobbs	RIES	ABORATORIES	

Work Order No:

Revised Date 051418 Rev 2018 1

Carlsbad NM 88220

1089 N Canal St.

**Eurofins Carlsbad** 

Chain of Custody Record

==

seurofins | Environment Testing

State, Zip: TX, 79701 PH04 (890-2105-1) Sample Identification - Client ID (Lab ID) BEU 29 W Vedar 100h Eurofins Environment Testing South Centi Note Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, 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/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central, LLC aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central, LLC. PH04C (890-2105-4) PH04B (890-2105-3) PH04A (890-2105-2) 432-704-5440(Tel) Midland Shipping/Receiving Client Information (Sub Contract Lab) Phone: 575-988-3199 Fax 575-988-3199 Empty Kit Relinquished by Possible Hazard Identification Deliverable Requested | II III IV Other (specify) 211 W Florida Ave. elinquished by: linquished by nconfirmed linquished by: Custody Seal No 182 Project #: 89000004 . 0 # PO# TAT Requested (days): Due Date Requested<sup>2</sup> 3/24/2022 hone Date/Time Primary Deliverable Rank. 2 )ate/Time Sample Date 3/17/22 3/17/22 3/17/22 3/17/22 Mountain 14 05 Mountain 14 45 Mountain 14 55 Mountair Sample 13 50 (C=comp, G=grab) Sample Preservation Code Type Company Company Company Matrix Solid Solid Solid Solid Kramer, Jessica Lab PM essica.kramer@eurofinset.com NELAP - Louisiana, NELAP - Texas Field Filtered Sample (Yes or No) I Ime: Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Monte Perform MS/MSD (Yes or No) Special Instructions/QC Requirements 8015MOD\_NM/8015NM\_S\_Prep (MOD) Full TPH × Received by Received by × × × Cooler Temperature(s) °C and Other Remarks 8015MOD Calc × × × × × × × × 300\_ORGFM\_28D/DI\_LEACH Chloride 8021B/5035FP\_Calc (MOD) BTEX × × × × Analysis Requested Total\_BTEX\_GCV × × × × New Mexico State of Origin Carrier Tracking No(s) Method of Shipment Date/Time Total Number of containers A HCL
B-NacH
C Zn Acetate
D-Nitric Acid
F MeOH
G-Amchlor
H Ascorbic Acid
I Ice
J DI Water
K EDTA
L-EDA  $\infty$ COC No: 890-675 1 890-2105-1 Page 1 of 1 Preservation Codes Special Instructions/Note: M - Hexane
N - None
O AsNac2
P - Na2O4S
Q Na2SC3
R - Na2SC3
R - Na2SC3
T TSP Dodecarhydrate
U - Acetone
U - MCAA W - pH 4-5 Z - other (specify) Company Ver 06/08/2021 Months

# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-2105-1
SDG Number: te01291044

Login Number: 2105 List Source: Eurofins Carlsbad

List Number: 1 Creator: Clifton, Cloe

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: 890-2105-1
SDG Number: te01291044

Login Number: 2105
List Source: Eurofins Midland
List Number: 2
List Creation: 03/21/22 08:55 AM

Creator: Lowe, Katie

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	

Euronnis Carisbau

1

3

4

5

8

9

11

13

14



APPENDIX E

NMOCD Notifications

## Baker, Adrian

From: Baker, Adrian

**Sent:** Monday, January 25, 2021 8:52 AM

To: 'Bratcher, Mike, EMNRD'; Hamlet, Robert, EMNRD; Venegas, Victoria, EMNRD; 'Mann,

Ryan'

Cc: Littrell, Kyle; 'Garrett Green (Garrett\_Green@xtoenergy.com)'

**Subject:** 48 hour liner notification - BEU 29W Vader 100H release date 1-14-21

## Good morning,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at BEU 29W Vader 100H (release date 1-14-21) on Wednesday, January 27, 2021, at 9am MST. A 24 hour release notification was sent out on Friday, January 15, 2020 at 5:15 PM since the release was greater than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: 32.567, -103.779

## Please note the email change below.

## Thank you

#### **Adrian Baker**

Environmental Coordinator Permian Business Unit

XTO Energy Inc. 6401 N. Holiday Hill Dr. Midland, Tx 79707 Mobile:(432)-236-3808 adrian.baker@exxonmobil.com

## **Aimee Cole**

Subject: Attachments:

FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 103588 image002.jpg; image015.jpg; image016.png; image018.png; image011.png; image012.png; image017.png; BEU 29W Vader 100H - Summary

From: OCDOnline@state.nm.us [mailto:OCDOnline@state.nm.us]

Sent: Monday, May 23, 2022 2:00 PM

**To:** Collins, Melanie < <u>melanie.collins@exxonmobil.com</u> >

Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 103588

#### **External Email - Think Before You Click**

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2102831345, for the following reasons:

• Remediation Plan Denied. Release has not been sufficiently vertically delineated. Vertical delineation must be delineated with more than one boring. Please make a decision prior to Remediation Plan submittal the outcome of excavated soil. If exsitu is chosen, please provide a detailed work plan describing protocols and methodology to be utilized in the process. Composite confirmation samples will be collected from the bottom of the excavation from areas representing no more than four hundred (400) square feet. Your request to only analyze for chloride has been approved. Please resubmit a revised Remediation Plan by June 24, 2022.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 103588.

Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,
Jennifer Nobui
Environmental Specialist-Advanced
505-476-3441
Jennifer.Nobui@state.nm.us

New Mexico Energy, Minerals and Natural Resources Department 1220 South St. Francis Drive Santa Fe, NM 87505

## **Aimee Cole**

Subject: FW: [EXTERNAL] FW: The Oil Conservation Division (OCD) has rejected the application, Application

ID: 103588

From: Nobui, Jennifer, EMNRD < Jennifer. Nobui@state.nm.us>

Sent: Wednesday, June 15, 2022 1:40 PM

To: Baker, Adrian <adrian.baker@exxonmobil.com>

Cc: Aimee Cole <acole@ensolum.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Bratcher, Mike, EMNRD

<mike.bratcher@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>

Subject: RE: [EXTERNAL] FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 103588

## [ \*\*EXTERNAL EMAIL\*\*]

Hi Adrian,

Based on 19.15.29 NMAC, you have to vertically delineate the site. While vertical delineation was achieved at PH01, PH03, and PH05, it was not at PH02 and PH04. The sensitivity with this case comes with groundwater being at 33'. In addition, the former lined containment (gray area), based on the scale is 125' x 75', is too large of an area to have just one boring. But you can state in the revised Remediation Plan that during excavation activities, delineation will be completed at locations PH02 and PH04. As you are requesting a liner at 4ft and groundwater is shallow at this location, OCD needs to know what is going to be left in place below the liner and how deep it extends, so that is why a second delineation boring was needed in the gray area and why we were more concerned with vertical delineation. Let me know if you would like to discuss this further.

Thanks,

Jennifer Nobui, PG • Environmental Specialist A

Environmental Bureau
EMNRD - Oil Conservation Division
5200 Oakland Avenue N.E Suite 100 | Albuquerque, NM 87113
505.470-3407 | Jennifer.Nobui@state.nm.us
http://www.emnrd.state.nm.us/OCD/



**APPENDIX F** 

Friction Reducer SDS



# SAFETY DATA SHEET

Issuing Date 01-Aug-2019 Revision Date 01-Aug-2019 Revision Number 1

# 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name POLYglide Xcel-200

Other means of identification

Product Code(s) 10497

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address Manufacturer Address

PfP Industries PfP Industries 29738 Goynes Rd. 29738 Goynes Rd. Katy, TX 77493 Katy, TX 77493

Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids Category 4

## Hazards not otherwise classified (HNOC)

Not applicable

#### Label elements

## Warning

Combustible liquid

EN / AGHS Page 1/8

Revision Date 01-Aug-2019

Appearance Opaque Physical state Liquid Odor Mineral Oil

Precautionary Statements - Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Information

May be harmful in contact with skin Harmful to aquatic life

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Chemical name	CAS No	Weight-%	Trade secret
Petroleum distillates, hydrotreated light	64742-47-8	40 - 70	

<sup>\*</sup>The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. FIRST AID MEASURES

#### Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s)

involved, take precautions to protect themselves and prevent spread of contamination.

Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

EN / AGHS Page 2/8

Revision Date 01-Aug-2019

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the

chemical

Keep product and empty container away from heat and sources of ignition. In the event of

fire, cool tanks with water spray.

**Explosion data** 

Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

## Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See

section 8 for more information. Take precautionary measures against static discharges. Do

not touch or walk through spilled material.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage

if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far

ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert

absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

#### Precautions for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat,

hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.

#### Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from

heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular

national regulations. Store in accordance with local regulations.

EN / AGHS Page 3/8

Revision Date 01-Aug-2019

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or

level that contributes to the hazard classification of the mixture) which have an exposure

limit applicable in the region for which this safety data sheet is intended or other

recommended limit. At this time, the other relevant constituents have no known exposure

limits from the sources listed here.

Appropriate engineering controls

Engineering controls Showers

Eyewash stations

Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are

exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not

be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid
Appearance Opaque

Color Milky white to yellow

Odor Mineral Oil

Odor threshold No information available

Property Values Remarks • Method

pH No data available None known
Melting point / freezing point No data available None known
Boiling point / boiling range No data available None known

Flash point >= 67 °C / 153 °F

Evaporation rate No data available None known Flammability (solid, gas) No data available None known

Flammability Limit in Air None known

Upper flammability limit: No data available
Lower flammability limit: No data available

 Vapor pressure
 No data available
 None known

 Vapor density
 No data available
 None known

Relative density 0.97 - 1.03 Water solubility Miscible in water

Solubility in other solvents
Partition coefficient
No data available
None known
Autoignition temperature
No data available
None known

Kinematic viscosity ≥150 mm²/s

Dynamic viscosity No data available None known

Explosive properties

Oxidizing properties

No data available

No information available

No information available

EN / AGHS Page 4/8

Revision Date 01-Aug-2019

Other Information

Softening point

Molecular weight

VOC Content (%)

Liquid Density

No information available

## 10. STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid Heat, flames and sparks.

Incompatible materials None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

## **Product Information**

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

#### Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

## Numerical measures of toxicity

#### Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

 ATEmix (oral)
 5,005.00 mg/kg

 ATEmix (dermal)
 2,002.00 mg/kg

 ATEmix (inhalation-dust/mist)
 5.20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum distillates, hydrotreated light 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat)4 h

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

EN / AGHS Page 5/8

Revision Date 01-Aug-2019

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

## 12. ECOLOGICAL INFORMATION

## **Ecotoxicity**

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated light 64742-47-8		2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static	,	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Other adverse effects No information available.

## 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

Waste from residues/unused

products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Contaminated packaging Do not reuse empty containers.

## 14. TRANSPORT INFORMATION

DOT Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3))

## 15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Does not comply
IECSC Complies
KECL Complies

EN / AGHS Page 6/8

Revision Date 01-Aug-2019

PICCS Complies Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

#### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### SARA 311/312 Hazard Categories

Acute health hazard No
Chronic Health Hazard No
Fire hazard Yes
Sudden release of pressure hazard No
Reactive Hazard No

## CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

#### **US State Regulations**

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

**US State Regulations** 

This product does not contain any substances regulated by state right-to-know regulations

#### U.S. EPA Label Information

#### EPA Pesticide Registration Number Not applicable

EN / AGHS Page 7/8

Revision Date 01-Aug-2019

## 16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA Health hazards 2 Flammability 2 Instability 0 Physical and chemical

properties -

HMIS Health hazards 2 Flammability 2 Physical hazards 0 Personal protection X

Issuing Date 01-Aug-2019

Revision Date 01-Aug-2019

Revision Note No information available.

#### Disclaimer

The data supplied herein is for use only in connection with occupational safety and health. The information provided in this Safety Data Sheet is believed to be correct as of the date issued. Updates to this information may be obtained by contacting (either reference contact location or website). PfP Industries MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. This information is not meant to be an all-inclusive document on worldwide hazard communication regulations. Each user of the material described herein must evaluate the conditions of use and design, many of which will be solely within the user's knowledge and control, and the appropriate protective actions, including proper notification and training of employees, necessary to prevent employee exposures, property damage or release to the environment.

**End of Safety Data Sheet** 

EN / AGHS Page 8/8

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

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 120265

## **CONDITIONS**

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	120265
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By	Condition	Condition Date
jnobu	Revised Remediation Plan Approved. Liner Installation Request Approved.	7/6/2022