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	NAPP2126639352
District RP	
Facility ID	
Application ID	

### **Release Notification**

### **Responsible Party**

Responsible Party OC		OGRID	RID			
Contact Name Contact 7			elephone			
Contact email Inci			Incident #	(assigned by OCL	D)	
Contact mail	ing address			l l		
			Location	of Release So	ource	
Latitude				Longitude _		
			(NAD 83 in dec	cimal degrees to 5 decin	nal places)	
Site Name				Site Type		
Date Release	Discovered			API# (if app	olicable)	
Unit Letter	Section	Township	Range	Coun	nty	
Surface Owner	r: State	Federal Tr	ribal	Name:		)
			TAT 4	1371 61	D 1	
			Nature and	d Volume of 1	Release	
				calculations or specific		ne volumes provided below)
Crude Oil		Volume Release	`			overed (bbls)
Produced	Water	Volume Release				overed (bbls)
			tion of total dissolvater >10,000 mg		☐ Yes ☐ 1	No
Condensa	ite	Volume Release		3/1:	Volume Recovered (bbls)	
Natural G	as	Volume Release	ed (Mcf)		Volume Recovered (Mcf)	
Other (describe) Volume/Weight Released (provide units)		e units)	Volume/Weight Recovered (provide units)			
		,		u ,		
Cause of Rele	ease					

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Incident ID	NAPP2126639352
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Was this a major release as defined by	If YES, for what reason(s) does the respon	nsible party consider this a major release?
19.15.29.7(A) NMAC?		
☐ Yes ☐ No		
If YES, was immediate no	ctice given to the OCD? By whom? To wh	om? When and by what means (phone, email, etc)?
	Initial Ro	esponse
The responsible	party must undertake the following actions immediatel	y unless they could create a safety hazard that would result in injury
The source of the rele	ease has been stopped.	
	as been secured to protect human health and	the environment.
Released materials ha	ave been contained via the use of berms or c	likes, absorbent pads, or other containment devices.
All free liquids and re	ecoverable materials have been removed and	d managed appropriately.
If all the actions described	d above have <u>not</u> been undertaken, explain	why:
has begun, please attach	a narrative of actions to date. If remedial	emediation immediately after discovery of a release. If remediation efforts have been successfully completed or if the release occurred clease attach all information needed for closure evaluation.
		best of my knowledge and understand that pursuant to OCD rules and
public health or the environr	ment. The acceptance of a C-141 report by the C	fications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have
		at to groundwater, surface water, human health or the environment. In responsibility for compliance with any other federal, state, or local laws
Printed Name:	^	Title:
Signatura	ion Baks	Date:
email:		Telephone:
OCD Only		
Received by: Ramona	Marcus	Date: 9/23/2021

### NAPP2126639352

Location:	PLU 78 B SWD		
Spill Date:	9/9/2021		
	Area 1		
Approximate A	rea =	1883.00	sq. ft.
Average Satura	tion (or depth) of spill =	4.00	inches
Average Porosi	ty Factor =	0.20	
	VOLUME OF LEAK		
Total Crude Oil	=	0.00	bbls
Total Produced	Water =	62.36	bbls
	TOTAL VOLUME OF LEAK		
Total Crude Oil	=	0.00	bbls
Total Produced	l Water =	62.36	bbls
	TOTAL VOLUME RECOVERED		
Total Crude Oil	=	0.00	bbls
Total Produced	Water =	40.00	bbls

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Incident ID	NAPP2126639352	
District RP		
Facility ID		
Application ID		

### **Site Assessment/Characterization**

This information must be provided to the appropriate district office no later than 50 days after the release discovery date.				
What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;100</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?	X Yes No			
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.				
Characterization Report Checklist: Each of the following items must be included in the report.				
<ul> <li>Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.</li> <li>Field data</li> <li>Data table of soil contaminant concentration data</li> <li>Depth to water determination</li> </ul>				

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.

Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release

Boring or excavation logs

Topographic/Aerial maps

Photographs including date and GIS information

Laboratory data including chain of custody

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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.			
Printed Name:Adrian Baker	Title:Environmental Coordinator		
Signature:Odvion Baks	Date:06/06/2022		
email:adrian.baker@exxonmobil.com	Telephone:432-236-3808		
OCD Only			
Received by:	Date:		

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Incident ID	NAPP2126639352
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## **Remediation Plan**

Remediation Plan Checklist: Each of the following items must be included in	in the plan.			
<ul> <li>Detailed description of proposed remediation technique</li> <li>Scaled sitemap with GPS coordinates showing delineation points</li> <li>Estimated volume of material to be remediated</li> <li>Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC</li> <li>Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)</li> </ul>				
Deferral Requests Only: Each of the following items must be confirmed as p	oart of any request for deferral of remediation.			
Contamination must be in areas immediately under or around production eddeconstruction.	quipment 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 of the contamination does not cause an imminent risk to human health, the environment risk to human health and the human health and the human health and the human health and the human health an	onment, or groundwater.			
Signature: Odrion Base Date:	se notifications and perform corrective actions for releases 141 report by the OCD does not relieve the operator of liate contamination that pose a threat to groundwater, of a C-141 report does not relieve the operator of regulations. Environmental Coordinator			
OCD Only				
Received by: Date:				
Approved	☐ Denied ☐ Deferral Approved			
Signature: Jennifer Nobui  Date: 08	/22/2022			



June 6, 2022

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

Re: Remediation Work Plan

PLU 78 B SWD

**Incident Number NAPP2126639352** 

**Eddy County, New Mexico** 

To Whom it May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared the following Remediation Work Plan (Work Plan) to document the site assessment and remediation activities completed to date and propose a work plan to address the remaining impacted soil identified at the PLU 78 B Salt Water Disposal (SWD) (Site). The purpose of the site assessment and remediation activities was to address impacted soil resulting from a release of produced water at the Site by safely excavating impacted soil to the extent possible based on the Site conditions and as allowed by XTO safety policy. Based on the excavation activities and soil sample laboratory analytical results, XTO proposes to complete final remediation activities upon abandonment of the Site per Title 19, Chapter 15, Part 29, Section 13 (19.15.29.13) of the New Mexico Administrative Code (NMAC).

### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.19442° N, 103.82817° W) and is associated with oil and gas exploration and production disposal operations on Bureau of Land Management (BLM) Federal Land.

On September 9, 2021, corrosion caused a leak on a flange connecting the ball valve to a stainless-steel pipeline, which resulted in the release of 62.36 barrels (bbls) of produced water onto the well pad and into the adjacent pasture. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 40 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on September 10, 2021 and submitted a Release Notification Form C-141 (Form C-141) on September 23, 2021. The release was assigned Incident Number NAPP2126639352.

### 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.

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants
601 North Marienfeld Street | Midland, TX 79701 | ensolum.com
Texas PG Firm No. 50588 | Texas PE Firm No. F-21843



Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest groundwater data. The nearest groundwater well is New Mexico Office of the State Engineer (NMOSE) well C-4478 located approximately 0.4 miles southwest of the Site. The well was drilled on October 7, 2020, and has a total depth of 110 feet bgs. No groundwater was encountered during drilling of the well, indicating depth to groundwater is greater than 110 feet bgs. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an emergent wetland, located approximately 6,150 feet northwest 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) gasoline range organics (GRO) and diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation standard of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

### SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On October 6, 2021, site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. The release extended north from the well pad into the adjacent pasture area beneath overhead electric lines, around utility poles, and in area with multiple surface and subsurface lines. Four preliminary assessment soil samples (SS01 through SS04) were collected within the release extent from a depth of 0.5 feet bgs to assess the extent of impacted soil. The preliminary soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site assessment and a photographic log is included in Appendix B.

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

Laboratory analytical results for preliminary soil samples SS01 through SS04 indicated that TPH and/or chloride concentrations exceeded the Site Closure Criteria and/or the reclamation standards applied to the top 4 feet of the pasture area. Based on visible staining in the release area, elevated field screening



results, and laboratory analytical results for the preliminary soil samples, excavation and delineation activities were warranted.

### **DELINEATION ACTIVITIES AND ANALYTICAL RSULTS**

On October 19, 2021, delineation activities were conducted at the Site to assess the vertical extent of impacted soil. Boreholes BH01 through BH03 were advanced via hand auger within the release extent, to a depth of 4 feet bgs. Discrete delineation soil samples were collected from each borehole at depths ranging from 1-foot bgs to 4 feet bgs. Soil from the boreholes was field screened for VOCs and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil samples were handled and analyzed as described above. The delineation soil sample locations are depicted on Figure 2.

Laboratory analytical results for the delineation soil samples collected from borehole BH01, advanced in the on-pad release extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for the delineation soil samples collected from boreholes BH02 and BH03, advanced in the pasture release extent, indicated that chloride concentrations exceeded the reclamation standard in samples collected from the top 4 feet of the subsurface. Benzene, BTEX, TPH-GRO/TPH-DRO, and TPH concentrations were compliant with the Site Closure Criteria and reclamation standards in all delineation soil samples. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix D.

### **EXCAVATION ACTIVITIES AND ANALYTICAL RESULTS**

Between October 25, 2021 and November 10, 2022, excavation and soil sampling activities were conducted at the Site based on field screening activities and laboratory analytical results for the preliminary and delineation soil samples. The excavation occurred on pad and in the pasture area north of the pad to the maximum extent possible. Excavation activities were performed using track-mounted backhoe and transport vehicle in accessible areas of the release extent and via hydrovac and hand shovel in areas near production equipment and surface and subsurface lines. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any on-site production equipment or active pipelines. This policy was enforced where impacted soil was identified within 2 feet of multiple active surface and subsurface pipelines. The excavation was completed to depths ranging from ground surface to 4 feet bgs. Photographic documentation was completed during the excavation activities. A photographic log is included in Appendix B.

Following removal of the impacted soil to the extent possible, 5-point composite soil samples were collected at least every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite floor samples FS01 through FS12 were collected from the floor of the excavation from a depth of 4 feet bgs. Composite sidewall samples SW01 through SW16 were collected from the sidewalls of the excavation from depths ranging from the ground surface to 4 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

The excavation measured approximately 2,020 square feet. A total of approximately 300 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico.



Laboratory analytical results for excavation floor samples FS01 through FS08, and FS11 and excavation sidewall samples SW01, SW02, SW07, SW08, SW09, SW11, SW13, SW15, and SW16 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the reclamation standards in samples collected from the top 4 feet of pasture areas. No further remediation was required in these areas.

Laboratory analytical results for excavation floor samples FS09, FS10, and FS12 indicated that chloride concentrations exceeded the Site Closure Criteria. Laboratory analytical results for excavation sidewall samples SW03 through SW06, SW10, SW12, and SW14, collected adjacent to active pipelines, indicated that chloride concentrations exceeded the reclamation standard in the top 4 feet of pasture areas. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D. Based on the laboratory analytical results, additional remediation activities are warranted and are detailed in the following proposed Remediation Work Plan.

### PROPOSED REMEDIATION WORK PLAN

Impacted soil was removed from the release area on pad; excavation samples collected from the on-pad excavation were compliant with the Site Closure Criteria. Impacted soil was removed from the top four feet of the pasture release areas to the maximum extent possible while complying with XTO safety policy regarding excavation within 2 feet of active pipelines. A hydrovac and hand shovels were used to remove as much soil as possible without disturbing the multiple surface and subsurface active electric lines, high-pressure gas lines, and fiberglass water lines within the release extent. Approximately 25 cubic yards of chloride impacted soil remains in place immediately surrounding or beneath active pipelines, identified in sidewall samples SW03 through SW06, SW10, SW12, and SW14. Additionally, an approximate 20 cubic yards of chloride impacted soil remains in place below the floor of the excavation, identified in samples FS09, FS10, and FS12.

XTO requests approval to complete the following remediation activities:

- Continued Excavation: XTO will proceed with vertical excavation of the chloride impacted soil
  identified in floor samples FS09, FS10, and FS12 to below the Site Closure Criteria. Following
  removal of the impacted soil, 5-point composite samples will be collected at least every 200
  square feet from the floor of the excavations, effectively replacing the failing samples. The
  impacted soil will be disposed of at a licensed disposal facility.
- Additional Delineation: Delineation of impacted soil remaining in place beneath and within 2 feet
  of active pipelines is complete, except near the buried water line near sample SW06. XTO will
  complete delineation of the chloride impacted soil along the water line north of sidewall sample
  SW06 to below the reclamation standards in the top four feet.

All new excavation and delineation samples will be handled as described above and submitted for laboratory analysis of chloride.

Once delineation of the remaining impacted soil beneath and near the active pipelines and overhead lines is complete, XTO requests to address the remaining estimated 25 cubic yards of chloride impacted soil at the time of facility abandonment and removal of the active pipelines. Impacted soil will be excavated from the top four feet to comply with the reclamation standards once the pipelines are abandoned or removed. The active pipelines are located immediately adjacent to the PLU 78 B SWD well pad in an area with significant belowground and aboveground hazards. The surface and subsurface lines are all operated by XTO and will be removed when the SWD facility is decommissioned and the pad is abandoned. Depth to water is greater than 100 feet bgs at the Site and no sensitive receptors were identified near the release extent. Approximately 300 cubic yards of impacted soil have already

been removed, indicating gross source removal is complete. Due to the relatively low risk of leaving the impacts in place temporarily and the high risk of damaging lines and causing injury or additional releases to the environment, XTO requests approval to postpone removal of the remaining impacted soil until facility abandonment.

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

Sincerely, **Ensolum, LLC** 

Tacoma Morrissey Senior Geologist

Mouissey

Aimee Cole Senior Managing Scientist

cc: Adrian Baker, XTO

Bureau of Land Management

### Appendices:

Figure 1 Site Receptor Map

Figure 2 Delineation Soil Sample Locations
Figure 3 Excavation Soil Sample Locations
Table 1 Soil Sample Analytical Results
Appendix A Referenced Well Records

Appendix B Photographic Log

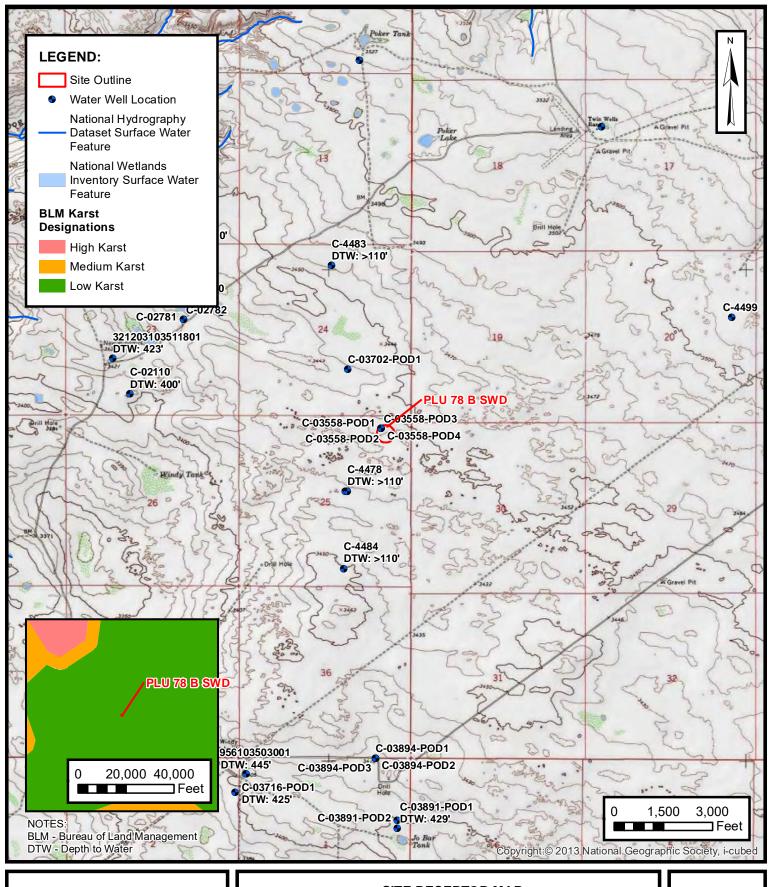
Appendix C Lithologic / Soil Sampling Logs

Appendix D Laboratory Analytical Reports and Chain of Custody Documentation

Appendix E NMOCD Notifications



**FIGURES** 

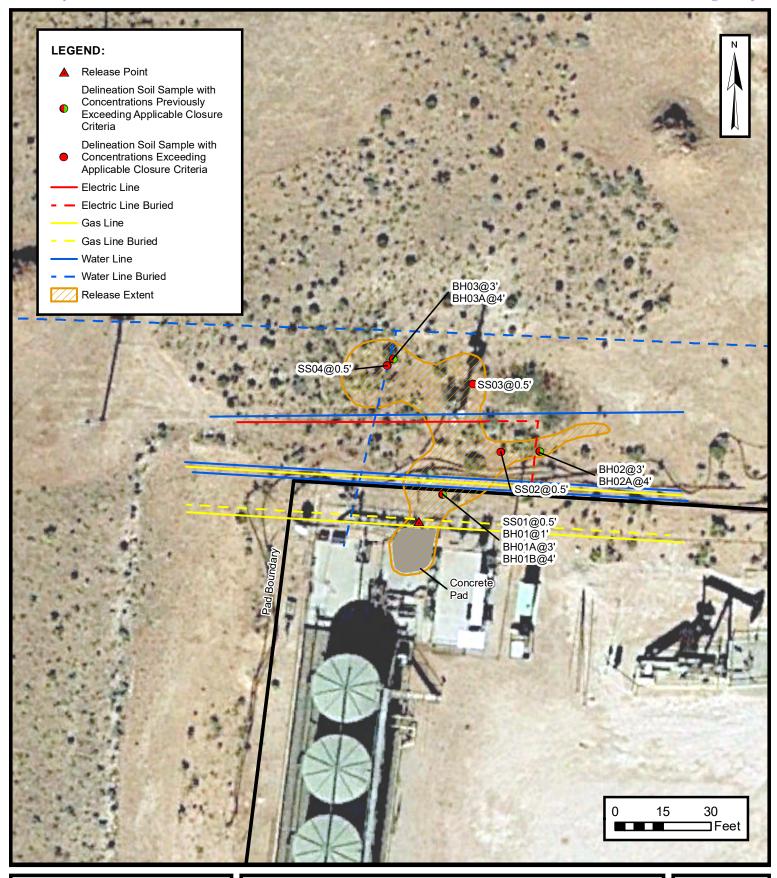




### SITE RECEPTOR MAP

XTO ENERGY, INC PLU 78 B SWD NAPP2126639352 Unit A, Sec 23, T24S, R30E Eddy County, New Mexico FIGURE

1

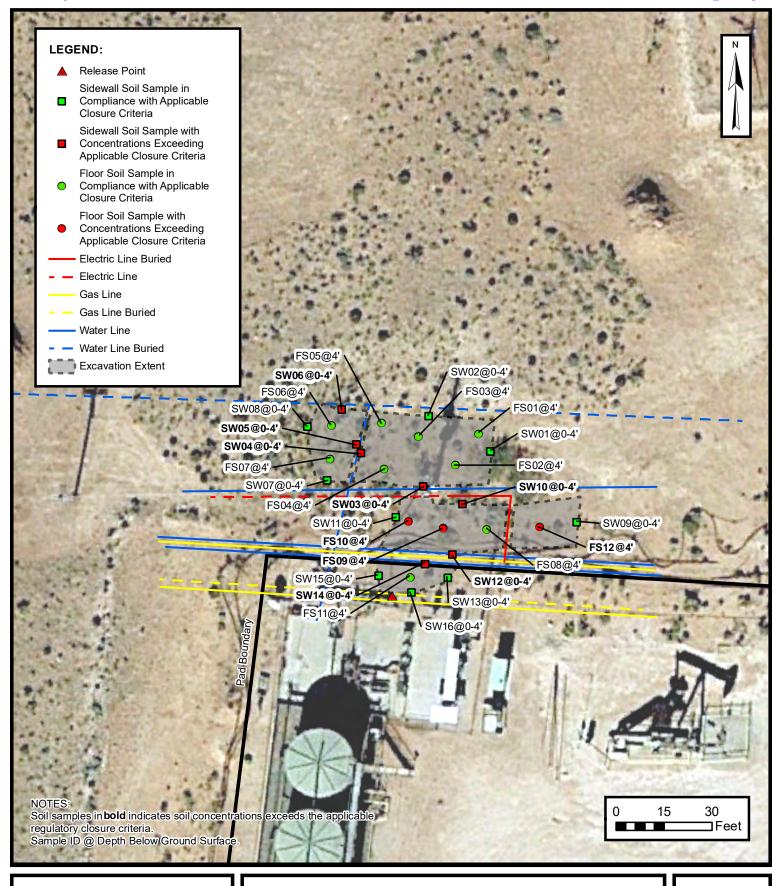




### **DELINEATION SOIL SAMPLE LOCATIONS**

XTO ENERGY, INC PLU 78 B SWD NAPP2126639352 Unit A, Sec 23, T24S, R30E Eddy County, New Mexico FIGURE

2





### **EXCAVATION SOIL SAMPLE LOCATIONS**

XTO ENERGY, INC PLU 78 B SWD NAPP2126639352 Unit A, Sec 23, T24S, R30E Eddy County, New Mexico FIGURE 3

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**TABLES** 



# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS PLU 78 B XTO Energy, Inc. Eddy 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 C	losure Criteria (	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
				Preliminar	ry Assessment S	oil Samples				
SS01	10/06/2021	0.5	<0.00200	0.0102	<250	15,300	2,160	15,300	17,500	5,360
SS02	10/06/2021	0.5	< 0.00199	<0.00398	<49.8	4,150	605	4,150	4,760	9,500*
SS03	10/06/2021	0.5	< 0.00201	0.0097	<49.9	297	115	297	412	277*
SS04	10/06/2021	0.5	<0.00202	< 0.00404	<49.8	87	<49.8	87	87	9,890*
				Del	ineation Soil San	ples				
BH01	10/19/2021	1	<0.00200	<0.00399	<49.9	65.1	<49.9	65.1	65.1	9,780
BH01A	10/19/2021	3	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	6,000
BH01B	10/19/2021	4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	12,000
BH02	10/19/2021	3	<0.00200	< 0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	14,100*
BH02A	10/19/2021	4	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	10,300
BH03	10/19/2021	3	< 0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	10,700*
BH03A	10/19/2021	4	< 0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	7,690
				Excav	ation Floor Soil S	amples				
FS01	11/10/2021	4	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	700
FS02	11/10/2021	4	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	709
FS03	11/10/2021	4	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	14,100
FS04	11/10/2021	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	9,540
FS05	11/10/2021	4	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	93.6	740
FS06	11/10/2021	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	635
FS07	11/10/2021	4	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	888
FS08	11/10/2021	4	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	7,570
FS09	11/10/2021	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	20,400
FS10	11/10/2021	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	22,600
FS11	11/10/2021	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	13,500
FS12	11/10/2021	4	<0.00198	< 0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	21,300
				Excavat	ion Sidewall Soil	Samples				
SW01	10/27/2021	0 - 4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	<4.98
SW02	10/27/2021	0 - 4	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	17.1*
SW03	10/27/2021	0 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	5,970*
SW04	10/27/2021	0 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	5,900*
SW05	10/27/2021	0 - 4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	7,210*
SW06	10/27/2021	0 - 4	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	6,420*
SW07	10/27/2021	0 - 4	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	20.9*
SW09	10/27/2021	0 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	338*

Ensolum



### TABLE 1 **SOIL SAMPLE ANALYTICAL RESULTS** PLU 78 B XTO Energy, Inc. **Eddy 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	1,000	2,500	20,000	
SW10	10/27/2021	0 - 4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	6,410*
SW11	10/27/2021	0 - 4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	96.4*
SW12	10/27/2021	0 - 4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	3,810*
SW13	10/27/2021	0 - 4	<0.00198	<0.00396	<50.0	229	<50.0	229	229	10,900
SW14	10/28/2021	0 - 4	<0.00199	<0.00398	<49.8	61.9	<49.8	61.9	61.9	6,550*
SW15	10/29/2021	0 - 4	<0.00198	<0.00397	<50.0	75.6	<50.0	75.6	75.6	10,700
SW16	10/30/2021	0 - 4	<0.00200	<0.00400	<49.8	74.3	<49.8	74.3	74.3	10,400

### Notes:

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

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics TPH: Total Petroleum Hydrocarbon

2 of 2



**APPENDIX A** 

Referenced Well Records

# WELL RECORD & LOG

### OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

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PAGE 1 OF 2

WELL TAG ID NO.

7	OSE POD NO POD1 (B)	•	.)		WELL TAG ID NO. n/a			OSE FILE NO(S	S).		 ()	مار المستقدر المراجعة المراجعة
ĮO.	,				11/4						ದ	
GENERAL AND WELL LOCATION	WELL OWNI	٠,						PHONE (OPTIO	ONAL)			
ı,	WELL OWN	ER MAILING	ADDRESS					CITY		STATE		ZIP
WEL	6401 Holid	lay Hill D	r.					Midland		TX	79707	
	WELL		DE	GREES	MINUTES	SECON		Ī				
AL.A	LOCATIO		TITUDE	32°	11'	22.5	7" N	i	REQUIRED: ONE TENT	TH OF A S	ECOND	
YER	(FROM GP	S) LO	NGITUDE .	-103°	49'	56.1	4" W	* DATUM REC	QUIRED: WGS 84			
	1		NG WELL LOCATION TO	STREET ADD	RESS AND COMMON	LANDMA	ARKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVAI	LABLE	
1.	SW SE NE	E Sec. 25	Γ24S R30E									
	LICENSE NO		NAME OF LICENSED					. <u> </u>	NAME OF WELL DRI			
	124	19			Jackie D. Atkins						Associates, I	
	DRILLING ST 10/07/		DRILLING ENDED 10/07/2020		MPLETED WELL (FI			LE DEPTH (FT)	DEPTH WATER FIRS	ST ENCOU n/a	NTERED (FT)	1
	10/0//		10/0//2020						STATIC WATER LEV		MPLETED WE	LL (FT)
z	COMPLETE	O WELL IS:	ARTESIAN	Z DRY HO	LE SHALLO	W (UNCO	NFINED)			n/a		( )
(TIO)	DRILLING F	LUID:	✓ AIR	MUD MUD	ADDITIV	ES – SPEC	ZIFY:		<del> </del>			
2. DRILLING & CASING INFORMATION	DRILLING M	ETHOD:	7 ROTARY	П намме	R CABLE T	OOL	ОТНЕ	R – SPECIFY:	Hollo	w Stem	Auger	
NFO	DEPTH	(feet bgl)	BORE HOLE	CASING	MATERIAL AND	O/OR	C	CDIC	CASING	CAST	NG WALL	SLOT
197	FROM	то	DIAM	(inchide	GRADE each casing string,	and	CON	ASING NECTION	INSIDE DIAM.		CKNESS	SIZE
ASI			(inches)	note	sections of screen)	allu		TYPE ling diameter)	(inches)	(i	nches)	(inches)
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III				1								
. DR												<del> </del>
7				<del> </del>					_			<del> </del>
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												<del>                                     </del>
	DEPTH	(feet bgl)	BORE HOLE	L	IST ANNULAR SI	EAL MA	TERIAL A	AND	AMOUNT		METHO	D OF
ANNULAR MATERIAL	FROM	TO	DIAM. (inches)	GRA	VEL PACK SIZE	-RANGE	BY INTE	ERVAL	(cubic feet)		PLACEN	MENT
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FOR	OSEANTER	ŅĄL USE							0 WELL RECORD			30/17)
FILE	E NOIL	<u>'</u> 44	IX		POD NO	D.		TRN	NO. 6-18	20.	人	

LOCATION

	DEPTH (1	feet bgl)		COLOR AN	ID TYPE OF MA	TERIAL E	NCOUNTE	RED -		WA	LEB		ATED
			THICKNESS	INCLUDE WATE					s	BEAR		WA	D FOR TER-
	FROM	TO	(feet)	(attach su	plemental sheets	to fully de	escribe all	units)		(YES	/NO)		RING S (gpm)
	0	3	3	Sand,	fine-grained, poor	y-graded,	Red-Brown	n		Y	√ N		
	3	5	2	Gra	vel, 20-30 mil, w	ll graded,	little clay			Y	√N		
	5	13	8	Caliche	with some gravel	(5-20 mil.	) Tan/ Brov	vn		Y	√N		
	13	24	9	Sand, fir	ne-grained, well-gr	aded some	silt, Tan/ F	Red		Y	√N		
	24	34	10	Sand, Med	ium-grained, well	graded so	me silt, Tan	/ Red		Y	√N		
🚽 [	34	44	10	Sand, Larg	e-grained, well-gr	aded some	silt, Dark E	Brown		Y	√ N		
4. HYDROGEOLOGIC LOG OF WELL	44	110	66	Sand, fine-grained, we	ll-graded, some cl	ıy, moist, e	caliche frag	ments Red/l	3rown	Y	√N		·
OF.										Y	N		
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										Y	N		
	METHOD U	SED TO ES	STIMATE YIELD	OF WATER-BEARIN	G STRATA:				TOTA	L ESTIN	IATED		
	PUM	P A	IR LIFT	BAILER	THER - SPECIFY	:			WEL	L YIELD	(gpm):	0.	.00
			DE017 TO 4 TO	ALGERA GODIN OF DAG	TA COLLEGED	DIMBIO	1107 Y 000	TTDIC DIC		IO DIGG	WARGE 1	CTIOT	
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VISION	MISCELLA	NEOUS IN	FORMATION:										
	MIBCLELLA	NEOUS IN	fe	emporary well materi	als removed and	the soil b	ooring back ite chins fr	kfilled usir om ten fee	ig drill it belov	cuttings	from tot surface	al depth	to ten
SUP				ogs adapted from LTI			ite emps n	0111 1011 100	. 0010	, ground	. Dan laco	o Duriu	
RIG													
TEST; RIG SUPER	DD D D D D A A	(E(0) OF F	DVI I DIO OUDEV	NACOD (C) THE AT DO	THE OTHER	OLYDEDI.	CION OF T	WELL CON	OTTO I I		THE PARTY	ANTIG	ENGER.
5. TF		, ,	RILL RIG SUPER	RVISOR(S) THAT PRO	VIDED ONSITE	SUPERVI	SION OF V	VELL CON	STRUC	TION O	THER TH	AN LIC	ENSEE:
	Shane Eldric	dge											
				FIES THAT, TO THE I									
SIGNATURE				DESCRIBED HOLE AN 30 DAYS AFTER COM				IIS WELL F	ECOR	D WITH	THE STA	ATE ENC	SINEER
(AT	_												
Si	Jack 1	Atkins		Ja	ckie D. Atkins					10/20	5/2020		
ا ق	<u>/</u>	SIGNAT	TIRE OF DRILLE	ER / PRINT SIGNEE	NAME.						DATE		
		2.31.111											
	OSE INTER	NAL USE			T = = = = = =			VR-20 WE	LL REC	CORD &	LOG (Ver	sion 06/	30/2017)
	E NO.	45	1 1/2	1	POD NO.	<u>\</u>	<del></del>	TRN NO.	<u>Q</u>	<del>7</del> 8	3 N =	<u> </u>	
LO	CATION C	$\mathcal{Q}$	へつひと	ニージン	<u> </u>	- イ	WELL TA	AG ID NO.	<b>/</b>	<i>JK</i> .		PAGE	2 OF 2

# 2020-10-26\_C-4478POD1\_OSE\_Well Record and Log-89-forsign

Final Audit Report

2020-10-27

Created:

2020-10-27

Ву:

Lucas Middleton (lucas@atkinseng.com)

Status:

Signed

Transaction ID:

CBJCHBCAABAAESGKFRG9AU3NcytvOCSRntC1Y-zTs43Y

# "2020-10-26\_C-4478POD1\_OSE\_Well Record and Log-89-forsig n" History

- Document created by Lucas Middleton (lucas@atkinseng.com) 2020-10-27 3:14:03 PM GMT- IP address: 69.21.248.123
- Document emailed to Jack Atkins (jack@atkinseng.com) for signature 2020-10-27 3:14:17 PM GMT
- Email viewed by Jack Atkins (jack@atkinseng.com) 2020-10-27 3:21:12 PM GMT- IP address: 74.50.153.115
- Document e-signed by Jack Atkins (jack@atkinseng.com)

  Signature Date: 2020-10-27 3:22:09 PM GMT Time Source: server- IP address: 74.50.153.115
- Agreement completed. 2020-10-27 - 3:22:09 PM GMT

Adobe Sign

### USGS 321203103511801 24S.30E.23.3124143

Available data for this site SUMMARY OF ALL AVAILABLE DATA ➤ GO

### **Well Site**

### **DESCRIPTION:**

Latitude 32°12'03", Longitude 103°51'18" NAD27 Eddy County, New Mexico , Hydrologic Unit 13060011

Well depth: 474 feet

Land surface altitude: 3,423 feet above NAVD88.

Well completed in "Pecos River Basin alluvial aquifer" (N100PCSRVR) national

aquifer.

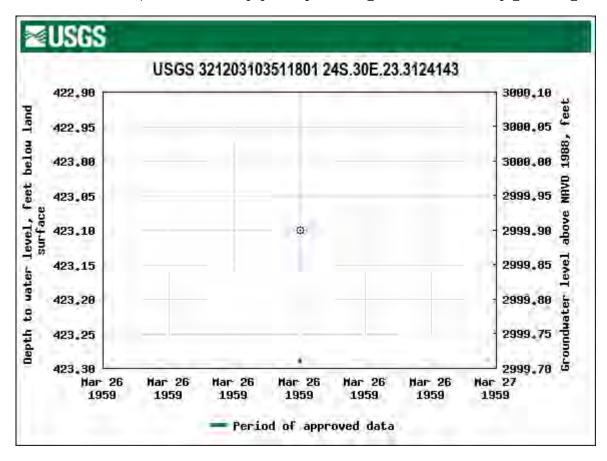
Well completed in "Rustler Formation" (312RSLR) local aquifer

### AVAILABLE DATA:

Data Type	<b>Begin Date</b>	End Date	Count
Field groundwater-level measurements	1959-03-26	1959-03-26	1
Revisions	Unavailable (	site:0) (timese	eries:0)

### **OPERATION:**

Record for this site is maintained by the USGS New Mexico Water Science Center Email questions about this site to <a href="New Mexico Water Science Center Water-Data">New Mexico Water Science Center Water-Data</a> <a href="Inquiries">Inquiries</a>





**APPENDIX B** 

Photographic Log

# **ENSOLUM**

### **Photographic Log**

XTO Energy, Inc.
PLU 78 B SWD
Incident Number NAPP2126639352





Photograph 1 Date: 9/10/2021

Description: View of visible staining observed during initial site assessment facing southwest.

Photograph 2 Date: 9/10/2021 Description: View of excavation along surface line.





Photograph 3 Date: 10/27/2021

Description:
View of excavation extent facing west.
Note the visible surface lines, overhead electric lines and utility poles.

Photograph 4 Date: 10/27/2021

Description:

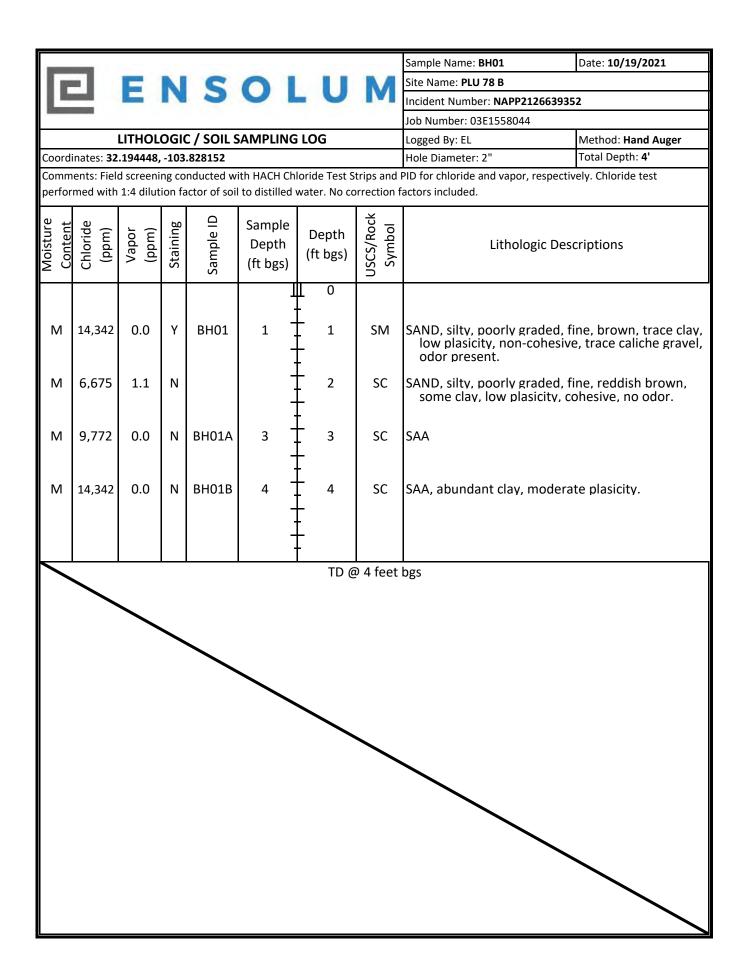
View of excavation extent facing east. Note

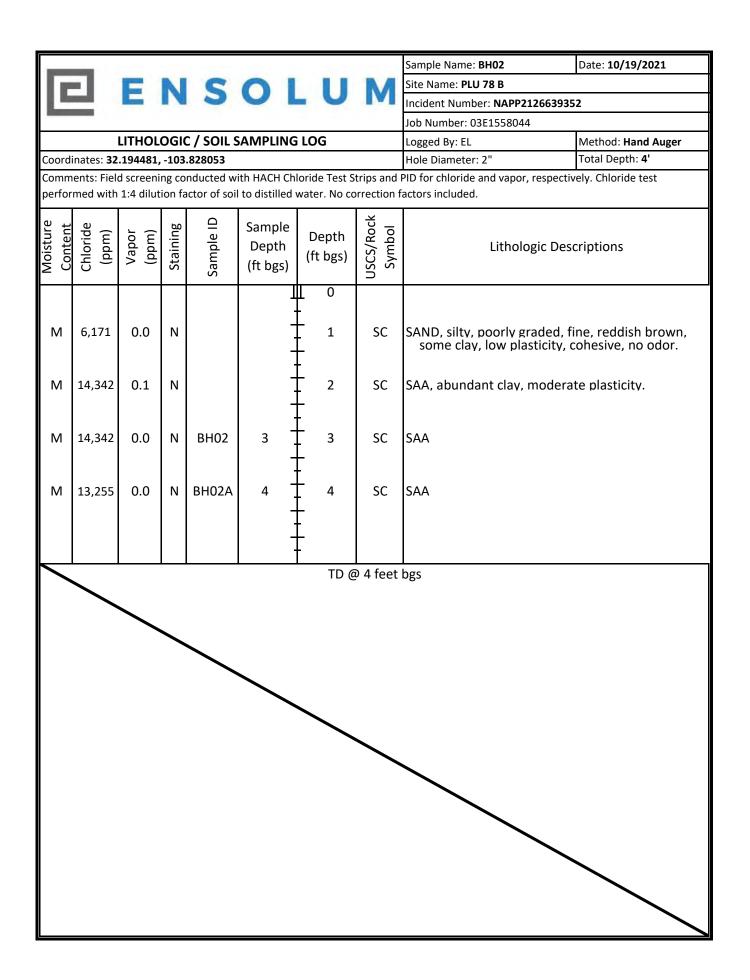
View of excavation extent facing east. Note the visible surface lines, overhead electric lines and utility poles.

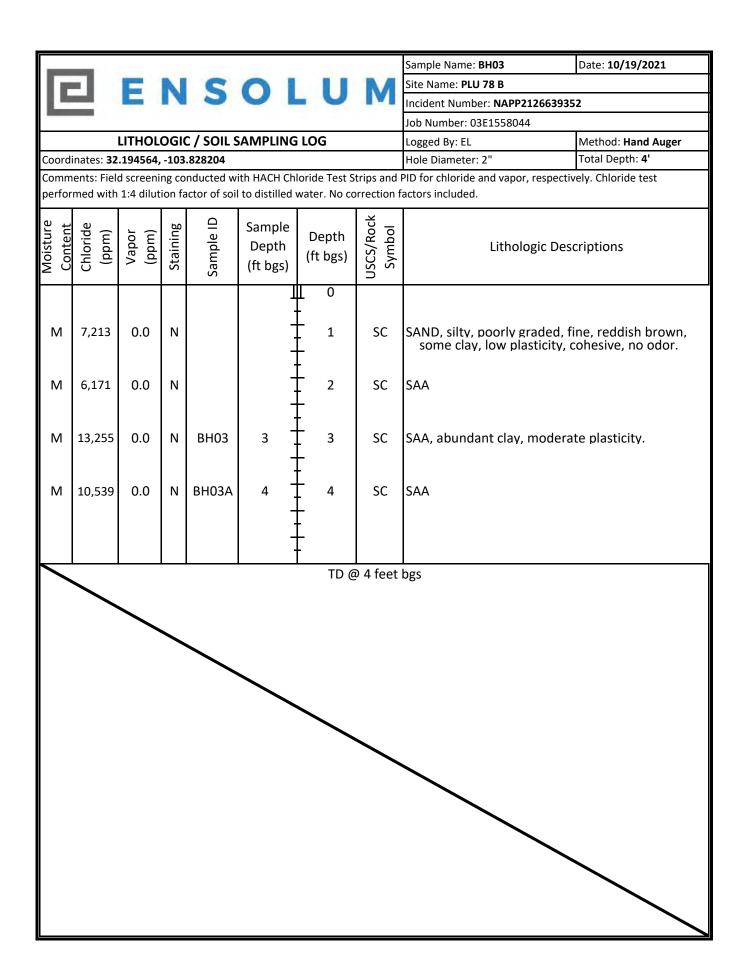


APPENDIX C

Lithologic Soil Sampling Logs









## APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



# **Environment Testing America**

## **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1377-1

Laboratory Sample Delivery Group: 31403236.020.0129

Client Project/Site: PLU 78 B

For:

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

Attn: Dan Moir

MEAMER

Authorized for release by: 10/14/2021 4:03:17 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: 8/22/2022 2:38:20 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.

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 Client: WSP USA Inc.
 Laboratory Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

**Table of Contents** 

Cover Page	1
Table of Contents	2
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Case Narrative	4
Client Sample Results	5
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	15
Lab Chronicle	18
Certification Summary	20
Method Summary	21
Sample Summary	22
Chain of Custody	23
Receint Checklists	24

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### Definitions/Glossary

 Client: WSP USA Inc.
 Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

**Qualifiers** 

**GC VOA** 

 Qualifier
 Qualifier Description

 S1+
 Surrogate recovery exceeds control limits, high biased.

 U
 Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier Qualifier Description

F1 MS and/or MSD recovery exceeds control limits.

S1+ Surrogate recovery exceeds control limits, high biased.

U Indicates the analyte was analyzed for but not detected.

6

**HPLC/IC** 

Qualifier Qualifier Description

U Indicates the analyte was analyzed for but not detected.

Glossary

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

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

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

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

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

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

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

NC Not Calculated

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

 NEG
 Negative / Absent

 POS
 Positive / Present

 PQL
 Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

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

TNTC Too Numerous To Count

Eurofins Xenco, Carlsbad

### **Case Narrative**

 Client: WSP USA Inc.
 Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Job ID: 890-1377-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-1377-1

### Receipt

The samples were received on 10/7/2021 11:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was  $5.8^{\circ}$ C

### **GC VOA**

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

#### GC Semi VOA

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-9371 and analytical batch 880-9354 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

### HPLC/IC

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

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Matrix: Solid

Lab Sample ID: 890-1377-1

### **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Client Sample ID: SS01

Date Collected: 10/06/21 11:38 Date Received: 10/07/21 11:10

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00200	U	0.00200	mg/Kg		10/12/21 16:16	10/13/21 17:29	
Toluene	<0.00200	U	0.00200	mg/Kg		10/12/21 16:16	10/13/21 17:29	
Ethylbenzene	0.00226		0.00200	mg/Kg		10/12/21 16:16	10/13/21 17:29	
m-Xylene & p-Xylene	0.00591		0.00399	mg/Kg		10/12/21 16:16	10/13/21 17:29	
o-Xylene	0.00200		0.00200	mg/Kg		10/12/21 16:16	10/13/21 17:29	
Xylenes, Total	0.00791		0.00399	mg/Kg		10/12/21 16:16	10/13/21 17:29	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Bromofluorobenzene (Surr)	130		70 - 130			10/12/21 16:16	10/13/21 17:29	
1,4-Difluorobenzene (Surr)	82		70 - 130			10/12/21 16:16	10/13/21 17:29	
Method: Total BTEX - Total BTI	EX Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	0.0102		0.00399	mg/Kg			10/13/21 13:00	
Method: 8015 NM - Diesel Rang	ge Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	17500		250	mg/Kg			10/13/21 15:17	
Method: 8015B NM - Diesel Ra	nge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<250	U	250	mg/Kg		10/13/21 11:33	10/14/21 00:36	
Diesel Range Organics (Over C10-C28)	15300		250	mg/Kg		10/13/21 11:33	10/14/21 00:36	
Oll Range Organics (Over C28-C36)	2160		250	mg/Kg		10/13/21 11:33	10/14/21 00:36	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	97		70 - 130			10/13/21 11:33	10/14/21 00:36	
o-Terphenyl	347	S1+	70 - 130			10/13/21 11:33	10/14/21 00:36	
Method: 300.0 - Anions, Ion Ch	romatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	5360		25.0	mg/Kg			10/14/21 04:41	

Client Sample ID: SS02

Date Collected: 10/06/21 11:45

Lab Sample ID: 890-1377-2

Matrix: Solid

Date Collected: 10/06/21 11:45 Date Received: 10/07/21 11:10

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)												
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac				
Benzene	<0.00199	U	0.00199	mg/Kg		10/12/21 16:16	10/13/21 17:50	1				
Toluene	0.00380		0.00199	mg/Kg		10/12/21 16:16	10/13/21 17:50	1				
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/12/21 16:16	10/13/21 17:50	1				
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/12/21 16:16	10/13/21 17:50	1				
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/12/21 16:16	10/13/21 17:50	1				
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/12/21 16:16	10/13/21 17:50	1				

Eurofins Xenco, Carlsbad

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Lab Sample ID: 890-1377-2

Prepared

10/13/21 11:33

10/13/21 11:33

Prepared

D

Analyzed

10/14/21 00:56

10/14/21 00:56

Analyzed

10/14/21 04:47

#### **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Client Sample ID: SS02

Date Collected: 10/06/21 11:45 Date Received: 10/07/21 11:10

Sample Depth: 0.5

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			10/12/21 16:16	10/13/21 17:50	1
1,4-Difluorobenzene (Surr)	86		70 - 130			10/12/21 16:16	10/13/21 17:50	1
- Method: Total BTEX - Total BTE	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/13/21 13:00	1
_ Method: 8015 NM - Diesel Rang	e Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	4760		49.8	mg/Kg			10/13/21 15:17	1
- Method: 8015B NM - Diesel Ran	ge Organics (D	RO) (GC)						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		10/13/21 11:33	10/14/21 00:56	1
Diesel Range Organics (Over C10-C28)	4150		49.8	mg/Kg		10/13/21 11:33	10/14/21 00:56	1
Oll Range Organics (Over C28-C36)	605		49.8	mg/Kg		10/13/21 11:33	10/14/21 00:56	1

Client Sample ID: SS03

Date Collected: 10/06/21 11:50

Lab Sample ID: 890-1377-3

Matrix: Solid

RL

49.5

Unit

mg/Kg

Limits

70 - 130

70 - 130

%Recovery

Method: 300.0 - Anions, Ion Chromatography - Soluble

110

119

9500

Result Qualifier

Qualifier

Date Received: 10/07/21 11:10

Sample Depth: 0.5

Surrogate

o-Terphenyl

Analyte

Chloride

1-Chlorooctane

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/13/21 10:00	10/13/21 18:10	1
Toluene	0.00692		0.00201	mg/Kg		10/13/21 10:00	10/13/21 18:10	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/13/21 10:00	10/13/21 18:10	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/13/21 10:00	10/13/21 18:10	1
o-Xylene	0.00279		0.00201	mg/Kg		10/13/21 10:00	10/13/21 18:10	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/13/21 10:00	10/13/21 18:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	134	S1+	70 - 130			10/13/21 10:00	10/13/21 18:10	1
1,4-Difluorobenzene (Surr)	76		70 - 130			10/13/21 10:00	10/13/21 18:10	1
- Method: Total BTEX - Total B1	TEX Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00971		0.00402	mg/Kg			10/13/21 13:00	1

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2

3

4

7

10

12

. .

Dil Fac

Dil Fac

Lab Sample ID: 890-1377-3

10/14/21 01:16

10/13/21 11:33

## **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1377-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

**Client Sample ID: SS03** 

Date Collected: 10/06/21 11:50 Date Received: 10/07/21 11:10

Sample Depth: 0.5

Method: 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	412		49.9	mg/Kg			10/13/21 15:17	1	

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/13/21 11:33	10/14/21 01:16	1
Diesel Range Organics (Over C10-C28)	297		49.9	mg/Kg		10/13/21 11:33	10/14/21 01:16	1
Oll Range Organics (Over C28-C36)	115		49.9	mg/Kg		10/13/21 11:33	10/14/21 01:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130			10/13/21 11:33	10/14/21 01:16	1

Method: 300.0 - Anions, Ion Chromatography - Soluble								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	277		4.96	mg/Kg			10/14/21 10:19	1

70 - 130

112

Client Sample ID: SS04 Lab Sample ID: 890-1377-4 **Matrix: Solid** 

Date Collected: 10/06/21 11:55 Date Received: 10/07/21 11:10

Sample Depth: 0.5

o-Terphenyl

Method: 8021B - Volatile Organic Compounds (C	3C)
Analyte Result	Qual

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		10/13/21 10:00	10/13/21 18:30	1
Toluene	<0.00202	U	0.00202	mg/Kg		10/13/21 10:00	10/13/21 18:30	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		10/13/21 10:00	10/13/21 18:30	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		10/13/21 10:00	10/13/21 18:30	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		10/13/21 10:00	10/13/21 18:30	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		10/13/21 10:00	10/13/21 18:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130			10/13/21 10:00	10/13/21 18:30	1
1,4-Difluorobenzene (Surr)	80		70 - 130			10/13/21 10:00	10/13/21 18:30	1

Method:	Total F	RTFX -	Total RTFX	Calculation
Wietiiou.	I Otal L	)   LA -	TOTAL DIEN	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			10/13/21 13:00	1

Method: 8015 NM - Diesel Range Organi	cs (DRO) (GC)
Analyte	Result Qualifier

Analyte	Result C	Qualifier F		it D	)	Prepared	Analyzed	Dil Fac
Total TPH	87.3	49	.8 mg	/Kg			10/13/21 15:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.8	U	49.8	mg/Kg		10/13/21 11:33	10/14/21 01:37	1
(GRO)-C6-C10								
Diesel Range Organics (Over	87.3		49.8	mg/Kg		10/13/21 11:33	10/14/21 01:37	1
C10-C28)								
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/13/21 11:33	10/14/21 01:37	1

## **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Client Sample ID: SS04 Lab S

Lab Sample ID: 890-1377-4

Date Collected: 10/06/21 11:55

Date Received: 10/07/21 11:10

Matrix: Solid

Sample Depth: 0.5

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1-Chlorooctane 103 70 - 130 10/13/21 11:33 10/14/21 01:37 o-Terphenyl 112 70 - 130 10/13/21 11:33 10/14/21 01:37

Method: 300.0 - Anions, Ion Chromatography - Soluble									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	9890		49.5	mg/Kg			10/14/21 10:38	10

a

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## **Surrogate Summary**

Client: WSP USA Inc. Job ID: 890-1377-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Sur
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1374-A-1-G MSD	Matrix Spike Duplicate	113	81	
890-1374-A-1-I MS	Matrix Spike	121	85	
890-1377-1	SS01	130	82	
890-1377-2	SS02	110	86	
890-1377-3	SS03	134 S1+	76	
890-1377-4	SS04	126	80	
LCS 880-9327/1-A	Lab Control Sample	112	85	
LCSD 880-9327/2-A	Lab Control Sample Dup	118	83	
MB 880-9327/5-A	Method Blank	110	71	
Surrogate Legend				
BFB = 4-Bromofluoroben	zene (Surr)			
DFBZ = 1,4-Difluorobenz	ene (Surr)			

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

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

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Sample ID	Client Sample ID	(70-130)	(70-130)	
)-1370-A-1-E MS	Matrix Spike	115	115	
)-1370-A-1-F MSD	Matrix Spike Duplicate	112	111	
)-1377-1	SS01	97	347 S1+	
-1377-2	SS02	110	119	
)-1377-3	SS03	104	112	
-1377-4	SS04	103	112	
S 880-9371/2-A	Lab Control Sample	81	82	
SD 880-9371/3-A	Lab Control Sample Dup	86	86	
880-9371/1-A	Method Blank	107	123	

1CO = 1-Chlorooctane OTPH = o-Terphenyl

#### QC Sample Results

Client: WSP USA Inc. Job ID: 890-1377-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-9327/5-A

Lab Sample ID: LCS 880-9327/1-A

**Analysis Batch: 9368** 

**Matrix: Solid** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 9327

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/12/21 16:16	10/13/21 12:41	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/12/21 16:16	10/13/21 12:41	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/12/21 16:16	10/13/21 12:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/12/21 16:16	10/13/21 12:41	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/12/21 16:16	10/13/21 12:41	1
Xylenes, Total	< 0.00400	U	0.00400	mg/Kg		10/12/21 16:16	10/13/21 12:41	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110	70 - 130	10/12/21 16:16	10/13/21 12:41	1
1,4-Difluorobenzene (Surr)	71	70 - 130	10/12/21 16:16	10/13/21 12:41	1

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 9327

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.08846 mg/Kg 88 70 - 130 Toluene 0.100 0.08931 mg/Kg 89 70 - 130 0.100 0.09418 Ethylbenzene mg/Kg 94 70 - 130 0.200 0.1960 70 - 130 m-Xylene & p-Xylene mg/Kg 98 0.100 0.09808 70 - 130 o-Xylene mg/Kg 98

LCS LCS

Surrogate	%Recovery Qualifi	er Limits
4-Bromofluorobenzene (Surr)	112	70 - 130
1,4-Difluorobenzene (Surr)	85	70 - 130

Lab Sample ID: LCSD 880-9327/2-A **Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 9368** 

**Analysis Batch: 9368** 

	Prep Type: Total/NA						
	Prep Ba	atch: 9327					
SD LCSD	%Rec.	RPD					

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09373		mg/Kg		94	70 - 130	6	35
Toluene	0.100	0.09698		mg/Kg		97	70 - 130	8	35
Ethylbenzene	0.100	0.1013		mg/Kg		101	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2116		mg/Kg		106	70 - 130	8	35
o-Xylene	0.100	0.1068		mg/Kg		107	70 - 130	8	35

LCSD LCSD

Surrogate	%Recovery C	Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	83		70 - 130

Lab Sample ID: 890-1374-A-1-G MSD

**Matrix: Solid** 

**Analysis Batch: 9368** 

Client Sample ID	: Matrix	<b>Spike</b>	Duplicate
	_	_	

Prep Type: Total/NA

Prep Batch: 9327

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00198	U	0.0990	0.09429		mg/Kg		95	70 - 130	11	35
Toluene	<0.00198	U	0.0990	0.09461		mg/Kg		96	70 - 130	6	35

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#### QC Sample Results

Client: WSP USA Inc. Job ID: 890-1377-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

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

Lab Sample ID: 890-1374-A-1-G MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 9368** Prep Batch: 9327 Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Ethylbenzene <0.00198 U 0.0990 0.09854 100 70 - 130 35 mg/Kg 0 m-Xylene & p-Xylene <0.00396 U 0.198 0.2040 mg/Kg 103 70 - 130 35 <0.00198 U 0.0990 0.1031 o-Xylene mg/Kg 104 70 - 130

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	81		70 - 130

Lab Sample ID: 890-1374-A-1-I MS

**Matrix: Solid** 

**Analysis Batch: 9368** 

Client Sample ID: Matrix Spike Prep Type: Total/NA Prep Batch: 9327

	Qualifier	Added							
		Added	Result	Qualifier	Unit	D	%Rec	Limits	
<0.00198	U	0.100	0.08471		mg/Kg		84	70 - 130	
<0.00198	U	0.100	0.08921		mg/Kg		89	70 _ 130	
<0.00198	U	0.100	0.09814		mg/Kg		98	70 - 130	
<0.00396	U	0.201	0.2025		mg/Kg		101	70 - 130	
<0.00198	U	0.100	0.1018		mg/Kg		101	70 - 130	
	<0.00198 <0.00198 <0.00396	<0.00198 U <0.00198 U <0.00396 U <0.00198 U	<0.00198 U 0.100 <0.00198 U 0.100 <0.00396 U 0.201	<0.00198	<0.00198 U 0.100 0.08921 <0.00198 U 0.100 0.09814 <0.00396 U 0.201 0.2025	<0.00198 U 0.100 0.08921 mg/Kg <0.00198 U 0.100 0.09814 mg/Kg <0.00396 U 0.201 0.2025 mg/Kg	<0.00198 U 0.100 0.08921 mg/Kg <0.00198 U 0.100 0.09814 mg/Kg <0.00396 U 0.201 0.2025 mg/Kg	<0.00198 U	<0.00198 U

MS MS Surrogate Qualifier Limits %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 121 1,4-Difluorobenzene (Surr) 85 70 - 130

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

Lab Sample ID: MB 880-9371/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Prep Batch: 9371

Analysis Batch: 9354

	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		10/13/21 11:33	10/13/21 20:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/13/21 11:33	10/13/21 20:52	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/13/21 11:33	10/13/21 20:52	1

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	10/13/21 11:33	10/13/21 20:52	1
o-Terphenyl	123		70 - 130	10/13/21 11:33	10/13/21 20:52	1

Lab Sample ID: LCS 880-9371/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 9354** 

	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	1243		mg/Kg		124	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	848.4		mg/Kg		85	70 - 130
C10-C28)							

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Prep Batch: 9371

Job ID: 890-1377-1 SDG: 31403236.020.0129

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

Lab Sample ID: LCS 880-9371/2-A

**Matrix: Solid** 

Client: WSP USA Inc. Project/Site: PLU 78 B

**Analysis Batch: 9354** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 9371

LCS LCS

MS MS

MSD MSD

%Recovery Qualifier Surrogate Limits 1-Chlorooctane 81 70 - 130 o-Terphenyl 82 70 - 130

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 9371

Lab Sample ID: LCSD 880-9371/3-A **Matrix: Solid** 

**Analysis Batch: 9354** 

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	1252		mg/Kg		125	70 - 130	1	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	831.2		mg/Kg		83	70 - 130	2	20
040,000)									

C10-C28)

LCSD LCSD Surrogate %Recovery Qualifier Limits 1-Chlorooctane 86 70 - 130 o-Terphenyl 86 70 - 130

Lab Sample ID: 890-1370-A-1-E MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 9354** 

Prep Type: Total/NA

Prep Batch: 9371

Prep Batch: 9371

	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	997	1402	F1	mg/Kg		141	70 - 130
Diesel Range Organics (Over	<49.9	U	997	1076		mg/Kg		106	70 - 130

C10-C28)

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

Lab Sample ID: 890-1370-A-1-F MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 9354** 

-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	1000	1334	F1	mg/Kg		133	70 - 130	5	20
Diesel Range Organics (Over	<49.9	U	1000	1043		mg/Kg		103	70 - 130	3	20

C10-C28)

	WISD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	111		70 - 130

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

**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

#### QC Sample Results

Client: WSP USA Inc. Job ID: 890-1377-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-9209/1-A

**Matrix: Solid** 

Analysis Batch: 9384

MB	MB
 - "	_

Result Qualifier RL Unit Prepared Analyzed Dil Fac Analyte Chloride <5.00 U 5.00 mg/Kg 10/14/21 01:58

Lab Sample ID: LCS 880-9209/2-A

**Matrix: Solid** 

**Analysis Batch: 9384** 

	<b>Spike</b>	LCS	LCS			%Rec.	
Analyte	Added	Result	Qualifier U	Init D	%Rec	Limits	
Chloride	250	249.9	m	ng/Kg	100	90 - 110	

Lab Sample ID: LCSD 880-9209/3-A

Matrix: Solid

**Analysis Batch: 9384** 

		Spike	LCSD	LCSD				%Rec.		RPD
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride		250	250.5		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-1373-A-56-B MS

**Matrix: Solid** 

**Analysis Batch: 9384** 

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	536		253	787.9		mg/Kg		100	90 - 110	

Lab Sample ID: 890-1373-A-56-C MSD

**Matrix: Solid** 

Analysis Batch: 9384

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	536		253	789.8		mg/Kg		101	90 - 110	0	20	

Lab Sample ID: MB 880-9286/1-A

**Matrix: Solid** 

**Analysis Batch: 9432** 

MB MB

Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00 U	J	5.00	mg/Kg			10/14/21 08:08	1

Lab Sample ID: LCS 880-9286/2-A

**Matrix: Solid** 

**Analysis Batch: 9432** 

	•		Spike	LCS	LCS				%Rec.
A	nalyte		Added	Result	Qualifier	Unit	D	%Rec	Limits
C	nloride		250	254.5		ma/Ka		102	90 - 110

Lab Sample ID: LCSD 880-9286/3-A

**Matrix: Solid** 

**Analysis Batch: 9432** 

· ······   · · · · · · · · · · · · ·									
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	255.5		mg/Kg		102	90 - 110	0	20

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Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

**Prep Type: Soluble** 

## **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1377-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-7049-A-11-B MS

**Matrix: Solid** 

**Analysis Batch: 9432** 

7 <b>.</b>										
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	791		2520	3557		mg/Kg		110	90 - 110	

Lab Sample ID: 880-7049-A-11-C MSD

**Matrix: Solid** 

Analysis Batch: 9432

Alialysis Datcil. 3432											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	791		2520	3546		mg/Kg		109	90 - 110	0	20

## **QC Association Summary**

 Client: WSP USA Inc.
 Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

**GC VOA** 

Prep Batch: 9327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1377-1	SS01	Total/NA	Solid	5035	
890-1377-2	SS02	Total/NA	Solid	5035	
890-1377-3	SS03	Total/NA	Solid	5035	
890-1377-4	SS04	Total/NA	Solid	5035	
MB 880-9327/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-9327/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-9327/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1374-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
890-1374-A-1-I MS	Matrix Spike	Total/NA	Solid	5035	

Analysis Batch: 9368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1377-1	SS01	Total/NA	Solid	8021B	9327
890-1377-2	SS02	Total/NA	Solid	8021B	9327
890-1377-3	SS03	Total/NA	Solid	8021B	9327
890-1377-4	SS04	Total/NA	Solid	8021B	9327
MB 880-9327/5-A	Method Blank	Total/NA	Solid	8021B	9327
LCS 880-9327/1-A	Lab Control Sample	Total/NA	Solid	8021B	9327
LCSD 880-9327/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	9327
890-1374-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	9327
890-1374-A-1-I MS	Matrix Spike	Total/NA	Solid	8021B	9327

**Analysis Batch: 9374** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1377-1	SS01	Total/NA	Solid	Total BTEX	
890-1377-2	SS02	Total/NA	Solid	Total BTEX	
890-1377-3	SS03	Total/NA	Solid	Total BTEX	
890-1377-4	SS04	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Analysis Batch: 9354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1377-1	SS01	Total/NA	Solid	8015B NM	9371
890-1377-2	SS02	Total/NA	Solid	8015B NM	9371
890-1377-3	SS03	Total/NA	Solid	8015B NM	9371
890-1377-4	SS04	Total/NA	Solid	8015B NM	9371
MB 880-9371/1-A	Method Blank	Total/NA	Solid	8015B NM	9371
LCS 880-9371/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	9371
LCSD 880-9371/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	9371
890-1370-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	9371
890-1370-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	9371

Prep Batch: 9371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1377-1 SS01		Total/NA	Solid	8015NM Prep	
890-1377-2	SS02	Total/NA	Solid	8015NM Prep	
890-1377-3	SS03	Total/NA	Solid	8015NM Prep	
890-1377-4	SS04	Total/NA	Solid	8015NM Prep	
MB 880-9371/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-9371/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

## **QC Association Summary**

Job ID: 890-1377-1 Client: WSP USA Inc. Project/Site: PLU 78 B SDG: 31403236.020.0129

## GC Semi VOA (Continued)

#### Prep Batch: 9371 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-9371/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1370-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1370-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### **Analysis Batch: 9387**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Bato	ch
890-1377-1	SS01	Total/NA	Solid	8015 NM	_
890-1377-2	SS02	Total/NA	Solid	8015 NM	
890-1377-3	SS03	Total/NA	Solid	8015 NM	
890-1377-4	SS04	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 9209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1377-1	890-1377-1 SS01		Solid	DI Leach	
890-1377-2	SS02	Soluble	Solid	DI Leach	
MB 880-9209/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-9209/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-9209/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1373-A-56-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1373-A-56-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Leach Batch: 9286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1377-3 SS03		Soluble	Solid	DI Leach	
890-1377-4	SS04	Soluble	Solid	DI Leach	
MB 880-9286/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-9286/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-9286/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-7049-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-7049-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 9384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1377-1	SS01	Soluble	Solid	300.0	9209
890-1377-2	SS02	Soluble	Solid	300.0	9209
MB 880-9209/1-A	Method Blank	Soluble	Solid	300.0	9209
LCS 880-9209/2-A	Lab Control Sample	Soluble	Solid	300.0	9209
LCSD 880-9209/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	9209
890-1373-A-56-B MS	Matrix Spike	Soluble	Solid	300.0	9209
890-1373-A-56-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	9209

#### Analysis Batch: 9432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
890-1377-3	SS03	Soluble	Solid	300.0	9286	
890-1377-4	SS04	Soluble	Solid	300.0	9286	
MB 880-9286/1-A	Method Blank	Soluble	Solid	300.0	9286	
LCS 880-9286/2-A	Lab Control Sample	Soluble	Solid	300.0	9286	
LCSD 880-9286/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	9286	
880-7049-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	9286	

## **QC Association Summary**

 Client: WSP USA Inc.
 Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

**HPLC/IC** (Continued)

**Analysis Batch: 9432 (Continued)** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-7049-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	9286

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Job ID: 890-1377-1 SDG: 31403236.020.0129

Project/Site: PLU 78 B

Client: WSP USA Inc.

Lab Sample ID: 890-1377-1

**Matrix: Solid** 

**Matrix: Solid** 

**Client Sample ID: SS01** Date Collected: 10/06/21 11:38

Date Received: 10/07/21 11:10

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			9327	10/12/21 16:16	KL	XEN MID
Total/NA	Analysis	8021B		1	9368	10/13/21 17:29	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	9374	10/13/21 13:00	KL	XEN MID
Total/NA	Analysis	8015 NM		1	9387	10/13/21 15:17	AJ	XEN MID
Total/NA	Prep	8015NM Prep			9371	10/13/21 11:33	DM	XEN MID
Total/NA	Analysis	8015B NM		5	9354	10/14/21 00:36	AJ	XEN MID
Soluble	Leach	DI Leach			9209	10/11/21 12:16	CH	XEN MID
Soluble	Analysis	300.0		5	9384	10/14/21 04:41	CH	XEN MID

**Client Sample ID: SS02** Lab Sample ID: 890-1377-2

Date Collected: 10/06/21 11:45 Date Received: 10/07/21 11:10

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			9327	10/12/21 16:16	KL	XEN MID
Total/NA	Analysis	8021B		1	9368	10/13/21 17:50	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	9374	10/13/21 13:00	KL	XEN MID
Total/NA	Analysis	8015 NM		1	9387	10/13/21 15:17	AJ	XEN MID
Total/NA	Prep	8015NM Prep			9371	10/13/21 11:33	DM	XEN MID
Total/NA	Analysis	8015B NM		1	9354	10/14/21 00:56	AJ	XEN MID
Soluble	Leach	DI Leach			9209	10/11/21 12:16	CH	XEN MID
Soluble	Analysis	300.0		10	9384	10/14/21 04:47	CH	XEN MID

**Client Sample ID: SS03** Lab Sample ID: 890-1377-3 Date Collected: 10/06/21 11:50 **Matrix: Solid** 

Date Received: 10/07/21 11:10

Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst Lab 5035 Total/NA Prep 9327 10/13/21 10:00 KL XEN MID 8021B Total/NA Analysis 9368 10/13/21 18:10 KL XEN MID Total/NA Analysis Total BTEX 9374 10/13/21 13:00 KL XEN MID 1 Total/NA Analysis 8015 NM 9387 10/13/21 15:17 XEN MID XEN MID Total/NA Prep 8015NM Prep 9371 10/13/21 11:33 DM Total/NA Analysis 8015B NM 9354 10/14/21 01:16 XEN MID AJ Soluble Leach DI Leach 9286 10/12/21 10:22 CH XEN MID

Lab Sample ID: 890-1377-4 Client Sample ID: SS04 Date Collected: 10/06/21 11:55 **Matrix: Solid** 

9432

10/14/21 10:19

CH

XEN MID

Date Received: 10/07/21 11:10

Analysis

300.0

Soluble

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			9327	10/13/21 10:00	KL	XEN MID
Total/NA	Analysis	8021B		1	9368	10/13/21 18:30	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	9374	10/13/21 13:00	KL	XEN MID

Eurofins Xenco, Carlsbad

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#### **Lab Chronicle**

Client: WSP USA Inc. Job ID: 890-1377-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

Client Sample ID: SS04 Lab Sample ID: 890-1377-4

Date Collected: 10/06/21 11:55 Matrix: Solid Date Received: 10/07/21 11:10

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	9387	10/13/21 15:17	AJ	XEN MID
Total/NA	Prep	8015NM Prep			9371	10/13/21 11:33	DM	XEN MID
Total/NA	Analysis	8015B NM		1	9354	10/14/21 01:37	AJ	XEN MID
Soluble	Leach	DI Leach			9286	10/12/21 10:22	CH	XEN MID
Soluble	Analysis	300.0		10	9432	10/14/21 10:38	CH	XEN MID

#### Laboratory References:

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

## **Accreditation/Certification Summary**

 Client: WSP USA Inc.
 Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

#### **Laboratory: Eurofins Xenco, Midland**

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

authority		ogram	Identification Number	Expiration Date	
Texas	NE	LAP	T104704400-21-22	06-30-22	
The following analytes	are included in this report bu	t the laboratory is not certifi	ed by the governing authority. This list ma	av include analytes for y	
the agency does not of	' '	t the laboratory to not ocium	od by the governing dutienty. The list me	ay include analytes for	
the agency does not of Analysis Method	' '	Matrix	Analyte	ay molade analytes for t	
0 ,	fer certification.	•	, , ,		

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#### **Method Summary**

 Client: WSP USA Inc.
 Job ID: 890-1377-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

Eurofins Xenco, Carlsbad

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## **Sample Summary**

Client: WSP USA Inc. Project/Site: PLU 78 B Job ID: 890-1377-1

SDG: 31403236.020.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1377-1	SS01	Solid	10/06/21 11:38	10/07/21 11:10	0.5
890-1377-2	SS02	Solid	10/06/21 11:45	10/07/21 11:10	0.5
890-1377-3	SS03	Solid	10/06/21 11:50	10/07/21 11:10	0.5
890-1377-4	SS04	Solid	10/06/21 11:55	10/07/21 11:10	0.5

Phone:

City, State ZIP:

Address:

Company Name:

Temperature (°C):

6.0

15.6

Thermometer ID

SAMPLE RECEIPT

Temp Blank:

(Yes)

<u>Z</u>

Wet Ice: Yes

Due Date:

Elliot Lee

r of Containers

Sampler's Name: P.O. Number: Project Number: Project Name:

31403236.020.0129

Rush: Routine PLU 78 B

Turn Around

**ANALYSIS REQUEST** 

Cost Center # 1080781001 Incident # NAPP2126639352

Work Order Notes

×

Project Manager: Dan Moi 3300 No WSP Pe

	Chain of Custody	Work Order No:
ゴスつつ	Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334	4
	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)	3-620-2000) www.xenco.com
Dan Moir	Bill to: (if different) Adrian Baker	Work Order Comments
WSP Permian office	Company Name: XTO Energy	Program: UST/PST ☐RP ☐rownfields ☐RC ⑤perfund ☐
3300 North A Street	Address: 3104 E Green Street	State of Project:
Midland, Tx 79705	City, State ZIP: Carlsbad, NM, 88220	Reporting:Level II
(432) 236-3849	Email: Elliot.Lee@wsp.com, Tacoma.Morrissey@wsp.com	Deliverables: EDD ADaPT Other:

5	ω 1		o o N					$\neg \tau$	$\neg \vdash$	Τ		Г			လွ	Ω	ري
4	Mar Son My	Relinquished by: (Signature)	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.	Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed						SS04	SS03	SS02	SS01	Sample Identification	Sample Custody Seals:	Cooler Custody Seals:	Received Intact:
		nature)	nt and relinquishme nly for the cost of sa \$75.00 will be applie	200.8 / 6020: / Metal(s) to be						S	s	S	S	ion Matrix	Yes No N/A	Yes No NIA	(Yes) No
	1. Ctx	Receive	nt of samples con imples and shall r d to each project							10/6/2021	10/6/2021	10/6/2021	10/6/2021	Date Sampled			17-27
	1	Received by: (Signature)	nstitutes a valid punot assume any reand a charge of \$1	8RCRA 13PPM Texas 11 AI Sb As TCLP / SPLP 6010: 8RCRA Sb As						1 11:55	11:50	1 11:45	1 11:38	Time Sampled	Total Containers:	Correction Factor:	アンスーの
		ге)	rchase order fron sponsibility for ar 5 for each sample	RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb						0.5'	0.5'	0.5'	0.5'	Depth		70.7	
	10/20		n client co ny losses submitte	1 AI :	L	_					_	-	_	Numb	er o	f Co	nta
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		by: (Si	rol	Ag s					-			T				-	
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		(e)		Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn Mn Mo Ni Se Ag Ti U 1631/245.1/7470/74										တ္လ	lab	TAT sta	
				1/74						Die	D.	Die	Die	ample	if receive	arts the c	
		Date/Time		Na Sr Ti Sn U V Zn 1631/245.1/7470/7471:Hg						Discrete	Discrete	Discrete	Discrete	Sample Comments	lab, if received by 4:30pm	TAT starts the day recevied by the	
	<u> </u>				J L		<u>.</u>	Ш						P 23 C	L		

## **Login Sample Receipt Checklist**

Client: WSP USA Inc. Job Number: 890-1377-1

SDG Number: 31403236.020.0129

Login Number: 1377 List Source: Eurofins Xenco, 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	

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## **Login Sample Receipt Checklist**

Job Number: 890-1377-1

SDG Number: 31403236.020.0129

List Source: Eurofins Xenco, Midland

List Creation: 10/08/21 11:49 AM

Login Number: 1377 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 Xenco, Carlsbad

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# **Environment Testing America**

## **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1450-1

Laboratory Sample Delivery Group: 31403236.020.0129

Client Project/Site: PLU 78 B

For:

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

Attn: Dan Moir

MEAMER

Authorized for release by: 10/28/2021 3:12:47 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

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

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

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Client: WSP USA Inc.

Project/Site: PLU 78 B

Laboratory Job ID: 890-1450-1 SDG: 31403236.020.0129

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#### Definitions/Glossary

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Qualifiers

GC VOA Qualifier

Qualifier Description

WS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

F1 MS and/or MSD recovery exceeds control limits.

F2 MS/MSD RPD exceeds control limits

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

GC Semi VOA

Qualifier Qualifier Description

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

**HPLC/IC** 

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.

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

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

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

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

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

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

NC Not Calculated

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

NEG Negative / Absent
POS Positive / Present

PQL Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

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

TNTC Too Numerous To Count

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#### **Case Narrative**

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Job ID: 890-1450-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-1450-1

#### Receipt

The samples were received on 10/19/2021 3:54 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 4.0°C

#### **GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-10011 and analytical batch 880-10332 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### GC Semi VOA

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: BH01 (890-1450-1). Evidence of matrix interferences is not obvious.

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

#### HPLC/IC

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

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Lab Sample ID: 890-1450-1

## **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Client Sample ID: BH01

Date Collected: 10/19/21 10:34 Date Received: 10/19/21 15:54

Sample Depth: 1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 18:49	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 18:49	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 18:49	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/20/21 14:16	10/24/21 18:49	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 18:49	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/20/21 14:16	10/24/21 18:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130			10/20/21 14:16	10/24/21 18:49	1
1,4-Difluorobenzene (Surr)	123		70 - 130			10/20/21 14:16	10/24/21 18:49	1
Method: Total BTEX - Total BTEX	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/26/21 15:12	1
Method: 8015 NM - Diesel Range	Organics (DP	O) (GC)						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	65.1		49.9	mg/Kg	— <u> </u>		10/27/21 11:09	1
	•			3 3				
Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		10/27/21 13:40	10/27/21 20:29	1
(GRO)-C6-C10								
Diesel Range Organics (Over	65.1		49.9	mg/Kg		10/27/21 13:40	10/27/21 20:29	1
C10-C28)	-10.0		40.0	ma/// a		10/27/21 12:40	10/27/21 20:20	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/27/21 13:40	10/27/21 20:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Surrogate			70 - 130			10/27/21 13:40	10/27/21 20:29	
1-Chlorooctane	126		70 - 130			10/21/21 10.40	10/21/21 20.29	1
		S1+	70 - 130 70 - 130			10/27/21 13:40	10/27/21 20:29	-
1-Chlorooctane o-Terphenyl	140							1 1
1-Chlorooctane	140 omatography -			Unit	D			-

**Client Sample ID: BH01A** 

Date Collected: 10/19/21 10:47

Date Received: 10/19/21 15:54

Sample Depth: 3

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		10/20/21 14:16	10/24/21 20:13	1
Toluene	<0.00198	U	0.00198	mg/Kg		10/20/21 14:16	10/24/21 20:13	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		10/20/21 14:16	10/24/21 20:13	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		10/20/21 14:16	10/24/21 20:13	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		10/20/21 14:16	10/24/21 20:13	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		10/20/21 14:16	10/24/21 20:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130			10/20/21 14:16	10/24/21 20:13	1

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Lab Sample ID: 890-1450-2

Matrix: Solid

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Lab Sample ID: 890-1450-2

## **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

**Client Sample ID: BH01A** 

Date Collected: 10/19/21 10:47 Date Received: 10/19/21 15:54

Sample Depth: 3

Method: 8021B - Volatile Organic Compo	ounds (GC)	(Continued)
modification totaling organic compa	Julius (33)	( Continuou,

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1.4-Difluorobenzene (Surr)	111		70 - 130	10/20/21 14:16	10/24/21 20:13	

Method: Tot	al BTEX - Tota	al BTEX Ca	alculation
mounou. Tot	u. D. L		aiouiutioii

Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTFX	<0.00396 U	J	0.00396	ma/Ka			10/26/21 15:12	1

Mothod: 9015 NM - Diocol Pango Oro	rapice (DPO) (CC)

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.9 U	49.9	ma/Ka		·	10/27/21 11:09	1	

Method: 8015B	NM Discol	Dange Ore	aaniee (DD(	)) (CC)
MICHIOU. OU 13D	INIVI - DIESEI	Rallue Oli	ualiics lunc	JI (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/27/21 13:40	10/27/21 21:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/27/21 13:40	10/27/21 21:29	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/27/21 13:40	10/27/21 21:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualit	fier Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108	70 - 130	10/27/21 13:40	10/27/21 21:29	1
o-Terphenyl	128	70 - 130	10/27/21 13:40	10/27/21 21:29	1

Method: 300	.0 - Anions, Ion	Chromatograph	y - Soluble

	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
l	Chloride	6000		49.9	mg/Kg			10/25/21 19:57	10

Client Sample ID: BH01B

Date Collected: 10/19/21 10:54

Lab Sample ID: 890-1450-3

Matrix: Solid

Date Collected: 10/19/21 10:54 Date Received: 10/19/21 15:54

Sample Depth: 4

Mathadi 0004D	Valatile Overen	ic Compounds (GC)
Memoo: Auzib	- voianie Urdan	ic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/20/21 14:16	10/24/21 20:34	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/20/21 14:16	10/24/21 20:34	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/20/21 14:16	10/24/21 20:34	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/20/21 14:16	10/24/21 20:34	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/20/21 14:16	10/24/21 20:34	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/20/21 14:16	10/24/21 20:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130			10/20/21 14:16	10/24/21 20:34	1
1,4-Difluorobenzene (Surr)	108		70 - 130			10/20/21 14:16	10/24/21 20:34	1

Mothod:	Total RT	EY - Tota	I DTEY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00402	U	0.00402	ma/Ka			10/26/21 15:12	1

Analyte	•	•	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH			<50.0	U	50.0	mg/Kg		-	10/27/21 11:09	1

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Lab Sample ID: 890-1450-3

## **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1450-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

**Client Sample ID: BH01B** 

Date Collected: 10/19/21 10:54 Date Received: 10/19/21 15:54

Sample Depth: 4

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		10/27/21 13:40	10/27/21 21:49	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		10/27/21 13:40	10/27/21 21:49	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/27/21 13:40	10/27/21 21:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130			10/27/21 13:40	10/27/21 21:49	1
o-Terphenyl	115		70 - 130			10/27/21 13:40	10/27/21 21:49	1
— Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12000		99.0	mg/Kg			10/25/21 22:04	20

Lab Sample ID: 890-1450-4 Client Sample ID: BH02 Date Collected: 10/19/21 11:25 Matrix: Solid

Date Received: 10/19/21 15:54

Sample Depth: 3

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 20:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 20:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 20:54	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/20/21 14:16	10/24/21 20:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 20:54	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/20/21 14:16	10/24/21 20:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130			10/20/21 14:16	10/24/21 20:54	1
1,4-Difluorobenzene (Surr)	104		70 - 130			10/20/21 14:16	10/24/21 20:54	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			10/26/21 15:12	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			10/27/21 11:09	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		10/27/21 13:40	10/27/21 22:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/27/21 13:40	10/27/21 22:10	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/27/21 13:40	10/27/21 22:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	112		70 - 130			10/27/21 13:40	10/27/21 22:10	1
o-Terphenyl	126		70 - 130			10/27/21 13:40	10/27/21 22:10	1

Lab Sample ID: 890-1450-4

## **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Client Sample ID: BH02

Date Collected: 10/19/21 11:25 Date Received: 10/19/21 15:54

Sample Depth: 3

Method: 300.0 - Anions, Ion Chrom	atography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14100		101	mg/Kg			10/25/21 22:22	20

Client Sample ID: BH02A

Date Collected: 10/19/21 11:30

Lab Sample ID: 890-1450-5

Matrix: Solid

Date Collected: 10/19/21 11:30 Date Received: 10/19/21 15:54

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 21:15	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 21:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 21:15	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/20/21 14:16	10/24/21 21:15	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 21:15	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/20/21 14:16	10/24/21 21:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			10/20/21 14:16	10/24/21 21:15	1
1,4-Difluorobenzene (Surr)	107		70 - 130			10/20/21 14:16	10/24/21 21:15	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			10/26/21 15:12	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/27/21 11:09	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	<49.8	U	49.8	mg/Kg		10/27/21 13:40	10/27/21 22:31	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/27/21 13:40	10/27/21 22:31	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/27/21 13:40	10/27/21 22:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130			10/27/21 13:40	10/27/21 22:31	1
o-Terphenyl	116		70 - 130			10/27/21 13:40	10/27/21 22:31	1
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<u> </u>						•	-	

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Lab Sample ID: 890-1450-6

## **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Client Sample ID: BH03

Date Collected: 10/19/21 11:59 Date Received: 10/19/21 15:54

Sample Depth: 3

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/20/21 14:16	10/24/21 21:36	1
Toluene	< 0.00199	U	0.00199	mg/Kg		10/20/21 14:16	10/24/21 21:36	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		10/20/21 14:16	10/24/21 21:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/20/21 14:16	10/24/21 21:36	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		10/20/21 14:16	10/24/21 21:36	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/20/21 14:16	10/24/21 21:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			10/20/21 14:16	10/24/21 21:36	1
1,4-Difluorobenzene (Surr)	105		70 - 130			10/20/21 14:16	10/24/21 21:36	1
- Method: Total BTEX - Total BTE	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed 10/26/21 15:12	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/26/21 15:12	1
Analyte								
Analyte	Docult	Qualifier						
<u> </u>			RL 50.0	Unit ma/Ka	D	Prepared	Analyzed	
Total TPH	<50.0		50.0	<mark>Unit</mark> mg/Kg	<u>D</u>	Prepared	Analyzed 10/27/21 11:09	
Total TPH	<50.0	U			<u>D</u>	Prepared		Dil Fac
Total TPH Method: 8015B NM - Diesel Ran	<50.0	U			D	Prepared Prepared		
Total TPH  Method: 8015B NM - Diesel Ran  Analyte  Gasoline Range Organics	<50.0	RO) (GC) Qualifier	50.0	mg/Kg			10/27/21 11:09	1
Total TPH  Method: 8015B NM - Diesel Range Analyte  Gasoline Range Organics (GRO)-C6-C10	<50.0 ge Organics (D Result	RO) (GC) Qualifier	50.0	mg/Kg		Prepared	10/27/21 11:09  Analyzed	1 Dil Fac
Total TPH  Method: 8015B NM - Diesel Range Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<50.0  ge Organics (Di Result <50.0 <50.0	U  RO) (GC)  Qualifier  U	50.0  RL  50.0  50.0	mg/Kg  Unit  mg/Kg		Prepared 10/27/21 13:40 10/27/21 13:40	10/27/21 11:09  Analyzed  10/27/21 22:51  10/27/21 22:51	Dil Fac
Total TPH  Method: 8015B NM - Diesel Ran	<pre>&lt;= &lt;50.0</pre> <pre>ge Organics (Di</pre>	U  RO) (GC)  Qualifier  U	50.0 RL 50.0	mg/Kg  Unit  mg/Kg		Prepared 10/27/21 13:40	10/27/21 11:09  Analyzed  10/27/21 22:51	Dil Fac
Total TPH  Method: 8015B NM - Diesel Range 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 %Recovery	U RO) (GC) Qualifier U U	50.0  RL 50.0  50.0  50.0  Limits	mg/Kg  Unit  mg/Kg		Prepared 10/27/21 13:40 10/27/21 13:40 10/27/21 13:40 Prepared	Analyzed 10/27/21 22:51 10/27/21 22:51 10/27/21 22:51 Analyzed	1 Dil Fac
Total TPH  Method: 8015B NM - Diesel Ran Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	<50.0 ge Organics (D) Result <50.0 <50.0 <50.0 <50.0 %Recovery 100	U RO) (GC) Qualifier U U	50.0  RL  50.0  50.0  50.0	mg/Kg  Unit  mg/Kg		Prepared 10/27/21 13:40 10/27/21 13:40 10/27/21 13:40	Analyzed 10/27/21 22:51 10/27/21 22:51 10/27/21 22:51	Dil Fac
Total TPH  Method: 8015B NM - Diesel Randanalyte  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 <50.0 %Recovery	U RO) (GC) Qualifier U U	50.0  RL 50.0  50.0  50.0  Limits	mg/Kg  Unit  mg/Kg		Prepared 10/27/21 13:40 10/27/21 13:40 10/27/21 13:40 Prepared	Analyzed 10/27/21 22:51 10/27/21 22:51 10/27/21 22:51 Analyzed	Dil Fac
Total TPH  Method: 8015B NM - Diesel Randanalyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	<50.0 ge Organics (D) Result <50.0 <50.0 <50.0 <50.0 <70.0 *Recovery 100 115	U RO) (GC) Qualifier U U Qualifier	50.0  RL 50.0  50.0  50.0  Limits 70 - 130	mg/Kg  Unit  mg/Kg		Prepared 10/27/21 13:40 10/27/21 13:40 10/27/21 13:40 Prepared 10/27/21 13:40	Analyzed 10/27/21 22:51 10/27/21 22:51 10/27/21 22:51 Analyzed 10/27/21 22:51	Dil Fac
Total TPH  Method: 8015B NM - Diesel Randanalyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	<50.0 ge Organics (D) Result <50.0 <50.0 <50.0 <50.0 <70.0 *Recovery 100 115 *romatography -	U RO) (GC) Qualifier U U Qualifier	50.0  RL 50.0  50.0  50.0  Limits 70 - 130	mg/Kg  Unit  mg/Kg		Prepared 10/27/21 13:40 10/27/21 13:40 10/27/21 13:40 Prepared 10/27/21 13:40	Analyzed 10/27/21 22:51 10/27/21 22:51 10/27/21 22:51 Analyzed 10/27/21 22:51	Dil Fac

Client Sample ID: BH03A

Date Collected: 10/19/21 12:05 Date Received: 10/19/21 15:54

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/20/21 14:16	10/24/21 21:57	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/20/21 14:16	10/24/21 21:57	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/20/21 14:16	10/24/21 21:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/20/21 14:16	10/24/21 21:57	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/20/21 14:16	10/24/21 21:57	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/20/21 14:16	10/24/21 21:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			10/20/21 14:16	10/24/21 21:57	

Eurofins Xenco, Carlsbad

Lab Sample ID: 890-1450-7

Matrix: Solid

Lab Sample ID: 890-1450-7

10/25/21 22:39

## **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Client Sample ID: BH03A

Date Collected: 10/19/21 12:05 Date Received: 10/19/21 15:54

Chloride

Method: 8021B - Volatile Organic	c Compounds (	GC) (Contir	nued)					
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	107		70 - 130			10/20/21 14:16	10/24/21 21:57	1
Method: Total BTEX - Total BTEX	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/26/21 15:12	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/27/21 11:09	1
	O	-0. (00)						
Method: 8015B NM - Diesel Rang	ge Organics (טו	RO) (GC)						
		RO) (GC) Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte Gasoline Range Organics		Qualifier	<b>RL</b> 49.8	Unit mg/Kg	D	Prepared 10/27/21 13:40	Analyzed 10/27/21 23:11	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result	Qualifier U			<u>D</u>			Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <49.8	Qualifier U	49.8	mg/Kg	<u>D</u>	10/27/21 13:40	10/27/21 23:11	1 1 1
Analyte  Gasoline Range Organics (GRO)-C6-C10  Diesel Range Organics (Over C10-C28)  Oll Range Organics (Over C28-C36)	Result  <49.8	Qualifier U U U	49.8	mg/Kg	<u>D</u>	10/27/21 13:40 10/27/21 13:40	10/27/21 23:11	1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result <49.8 <49.8 <49.8	Qualifier U U U	49.8 49.8 49.8	mg/Kg	<u> </u>	10/27/21 13:40 10/27/21 13:40 10/27/21 13:40	10/27/21 23:11 10/27/21 23:11 10/27/21 23:11	1 1
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 1-Chlorooctane o-Terphenyl	Result   <49.8   <49.8   <49.8   <49.8   <49.8   %Recovery	Qualifier U U U	49.8 49.8 49.8 <i>Limits</i>	mg/Kg	<u>D</u>	10/27/21 13:40 10/27/21 13:40 10/27/21 13:40 Prepared	10/27/21 23:11 10/27/21 23:11 10/27/21 23:11 10/27/21 23:11 Analyzed	1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result   <49.8   <49.8   <49.8   <49.8     <49.8     <10.0   <10.0   <11.5   <10.0   <11.5   <10.0   <11.5   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0   <10.0	Qualifier  U  U  Qualifier	49.8 49.8 49.8  Limits 70 - 130	mg/Kg	<u> </u>	10/27/21 13:40 10/27/21 13:40 10/27/21 13:40 Prepared 10/27/21 13:40	10/27/21 23:11 10/27/21 23:11 10/27/21 23:11 Analyzed 10/27/21 23:11	1 1 1 Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

50.0

mg/Kg

## **Surrogate Summary**

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

Lab Sample ID 880-7292-A-1-B MS 880-7292-A-1-C MSD	Client Sample ID  Matrix Spike	BFB1 (70-130)	DFBZ1 (70-130)	
880-7292-A-1-B MS	_ <u> </u>	(70-130)	(70-130)	
	Matrix Snike		(10-130)	
880-7292-A-1-C MSD	Matrix Opine	8 S1-	127	
	Matrix Spike Duplicate	21 S1-	0.006 S1-	
890-1450-1	BH01	126	123	
890-1450-2	BH01A	128	111	
890-1450-3	BH01B	88	108	
890-1450-4	BH02	89	104	
890-1450-5	BH02A	90	107	
890-1450-6	BH03	106	105	
890-1450-7	BH03A	101	107	
LCS 880-10011/1-A	Lab Control Sample	90	105	
LCSD 880-10011/2-A	Lab Control Sample Dup	93	101	
MB 880-10009/5-A	Method Blank	119	99	
MB 880-10011/5-A	Method Blank	107	107	

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
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1450-1	BH01	126	140 S1+	
890-1450-1 MS	BH01	111	113	
890-1450-1 MSD	BH01	127	129	
890-1450-2	BH01A	108	128	
890-1450-3	BH01B	102	115	
890-1450-4	BH02	112	126	
890-1450-5	BH02A	99	116	
890-1450-6	BH03	100	115	
890-1450-7	BH03A	100	115	
LCS 880-10752/2-A	Lab Control Sample	87	94	
LCSD 880-10752/3-A	Lab Control Sample Dup	87	92	
MB 880-10752/1-A	Method Blank	124	143 S1+	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

#### **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1450-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-10009/5-A

**Matrix: Solid** 

Analysis Batch: 10332

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 10009

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:10	10/24/21 04:18	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:10	10/24/21 04:18	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:10	10/24/21 04:18	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/20/21 14:10	10/24/21 04:18	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:10	10/24/21 04:18	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/20/21 14:10	10/24/21 04:18	1

MB MB

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Prepared Dil Fac Analyzed 10/20/21 14:10 10/24/21 04:18 10/20/21 14:10 10/24/21 04:18

Lab Sample ID: MB 880-10011/5-A

Matrix: Solid

Analysis Batch: 10332

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

Prep Batch: 10011

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 15:20	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 15:20	•
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 15:20	•
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/20/21 14:16	10/24/21 15:20	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/20/21 14:16	10/24/21 15:20	1
Xylenes, Total	< 0.00400	U	0.00400	mg/Kg		10/20/21 14:16	10/24/21 15:20	1

мв мв

Surrogate	%Recovery Qualifie	r Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107	70 - 130	10/20/21 14:16	10/24/21 15:20	1
1,4-Difluorobenzene (Surr)	107	70 - 130	10/20/21 14:16	10/24/21 15:20	1

Lab Sample ID: LCS 880-10011/1-A

**Matrix: Solid** 

**Analysis Batch: 10332** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 10011

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1028		mg/Kg		103	70 - 130	
Toluene	0.100	0.07866		mg/Kg		79	70 - 130	
Ethylbenzene	0.100	0.07910		mg/Kg		79	70 - 130	
m-Xylene & p-Xylene	0.200	0.1485		mg/Kg		74	70 - 130	
o-Xylene	0.100	0.07658		mg/Kg		77	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	90	70 _ 130
1.4-Difluorobenzene (Surr)	105	70 - 130

Lab Sample ID: LCSD 880-10011/2-A

**Matrix: Solid** 

Analysis Batch: 10332

Client Sample ID: Lab Control Sample Dup	)
Prep Type: Total/NA	•
Prep Batch: 10011	

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.08414		mg/Kg		84	70 - 130	20	35

#### **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1450-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

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

Lab Sample ID: LCSD 880-10011/2-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA Prep Batch: 10011

**Analysis Batch: 10332** 

-	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.07026		mg/Kg		70	70 - 130	11	35
Ethylbenzene	0.100	0.07046		mg/Kg		70	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.1400		mg/Kg		70	70 - 130	6	35
o-Xylene	0.100	0.07068		mg/Kg		71	70 - 130	8	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 880-7292-A-1-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

Prep Type: Total/NA Analysis Batch: 10332 Prep Batch: 10011

Sampl	e Sample	Spike	MS	MS				%Rec.
Analyte Resul	t Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzene 0.058	F1	0.101	<0.00202	U F1	mg/Kg		0	70 - 130
Toluene 0.19	5 F1	0.101	0.02703	F1	mg/Kg		-166	70 - 130
Ethylbenzene 0.71	1 E	0.101	0.006642	4	mg/Kg		-700	70 - 130
m-Xylene & p-Xylene 0.13	3 F1	0.202	<0.00404	U F1	mg/Kg		-68	70 - 130
o-Xylene 2.2	) E	0.101	0.06402	4	mg/Kg		-2117	70 - 130

MS MS

0.138 F1

2.20 E

Surrogate	%Recovery	Qualifier	Limits	
4-Bromofluorobenzene (Surr)	8	S1-	70 - 130	
1,4-Difluorobenzene (Surr)	127		70 - 130	

Lab Sample ID: 880-7292-A-1-C MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 10332** 

Prep Batch: 10011 Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Benzene 0.0580 F1 0.0998 <0.00200 U F1 mg/Kg -58 70 - 130 NC 35 Toluene 0.195 F1 0.0998 <0.00200 UF1F2 mg/Kg -194 70 - 130 180 35 Ethylbenzene 0.714 E 0.0998 0.05093 4 F2 mg/Kg -664 70 - 130 154 35

0.02850 F1 F2

0.1697 4 F2

mg/Kg

mq/Kq

0.200

0.0998

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	21	S1-	70 - 130
1.4-Difluorobenzene (Surr)	0.006	S1-	70 - 130

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

Lab Sample ID: MB 880-10752/1-A Client Sample ID: Method Blank

**Matrix: Solid** Analysis Batch: 10661

m-Xylene & p-Xylene

o-Xylene

мв мв

Result Qualifier RL Unit Prepared Gasoline Range Organics <50.0 U 50.0 mg/Kg 10/27/21 13:40 10/27/21 19:28

(GRO)-C6-C10

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-55

-2037

70 - 130

70 - 130

183

Prep Type: Total/NA

Prep Batch: 10752

35

o-Terphenyl

## **QC Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

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

Lab Sample ID: MB 880-10752/1-A	Client Sample ID: Method Blank
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 10661	Prep Batch: 10752

	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		10/27/21 13:40	10/27/21 19:28	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/27/21 13:40	10/27/21 19:28	1
	МВ	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130			10/27/21 13:40	10/27/21 19:28	1
o-Terphenyl	143	S1+	70 - 130			10/27/21 13:40	10/27/21 19:28	1

Lab Sample ID: LCS 880-10 Matrix: Solid Analysis Batch: 10661	752/2-A						Client	Sample		rol Sample e: Total/NA atch: 10752
-			Spike	LCS	LCS				%Rec.	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics			1000	927.4		mg/Kg		93	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over			1000	920.2		mg/Kg		92	70 - 130	
C10-C28)										
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	87		70 - 130							

70 - 130

Lab Sample ID: LCSD 880-10752/3-A			Clier	nt Sam	iple ID: I	Lab Contro	ol Sample	e Dup	
Matrix: Solid							Prep 1	Type: Tot	tal/NA
Analysis Batch: 10661							Prep	Batch:	10752
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1115		mg/Kg		111	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	1000	770.0		mg/Kg		77	70 - 130	18	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Tembenyl	92		70 130

113

Lab Sample ID: 890-1450-1 MS Matrix: Solid Analysis Batch: 10661									Prep Ty	ple ID: BH01 /pe: Total/NA Batch: 10752
	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	997	1192		mg/Kg		120	70 - 130	
Diesel Range Organics (Over C10-C28)	65.1		997	1095		mg/Kg		103	70 - 130	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	111		70 _ 130							

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70 - 130

o-Terphenyl

#### QC Sample Results

Job ID: 890-1450-1 Client: WSP USA Inc. SDG: 31403236.020.0129 Project/Site: PLU 78 B

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

 Lab Sample ID: 890-1450-1 MSD	)			Client Sample ID: BH01
Matrix: Solid				Prep Type: Total/NA
Analysis Batch: 10661				Prep Batch: 10752
-	Sample Sample	Snika	MSD MSD	%Pac PPD

	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	1000	1221		mg/Kg		122	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	65.1		1000	1233		mg/Kg		117	70 - 130	12	20

MSD MSD %Recovery Qualifier Limits Surrogate 1-Chlorooctane 70 - 130 127 o-Terphenyl 129 70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-10300/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 10506

	IVID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			10/25/21 16:31	1

Lab Sample ID: LCS 880-10300/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 10506** 

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	250.8		mg/Kg		100	90 - 110	 

Lab Sample ID: LCSD 880-10300/3-A **Client Sample ID: Lab Control Sample Dup Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 10506

	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	251.0		mg/Kg	_	100	90 - 110	0	20	

Lab Sample ID: 890-1449-A-10-C MS Client Sample ID: Matrix Spike **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 10506

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	181		251	443.2		ma/Ka	_	105	90 - 110	

Lab Sample ID: 890-1449-A-10-D MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 10506

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	181		251	426.9		mg/Kg		98	90 - 110	4	20

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

#### QC Sample Results

Client: WSP USA Inc. Job ID: 890-1450-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-10301/1-A

**Matrix: Solid** 

Analysis Batch: 10621

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Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 10/25/21 21:11

Lab Sample ID: LCS 880-10301/2-A

**Matrix: Solid** 

**Analysis Batch: 10621** 

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 259.2 mg/Kg 104 90 - 110

Lab Sample ID: LCSD 880-10301/3-A

**Matrix: Solid** 

Analysis Batch: 10621

LCSD LCSD %Rec. RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 256.5 mg/Kg 103 90 - 110

Lab Sample ID: 880-7343-A-21-B MS

**Matrix: Solid** 

Analysis Batch: 10621

MS MS Sample Sample Spike %Rec. Analyte Qualifier Added Result Result Qualifier Unit %Rec Limits Chloride 7590 2480 10100 101 90 - 110 mg/Kg

Lab Sample ID: 880-7343-A-21-C MSD

**Matrix: Solid** 

Analysis Batch: 10621

Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 2480 Chloride 7590 10080 mg/Kg 100 90 - 110 0 20

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

**GC VOA** 

Prep Batch: 10009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-10009/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 10011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-1	BH01	Total/NA	Solid	5035	
890-1450-2	BH01A	Total/NA	Solid	5035	
890-1450-3	BH01B	Total/NA	Solid	5035	
890-1450-4	BH02	Total/NA	Solid	5035	
890-1450-5	BH02A	Total/NA	Solid	5035	
890-1450-6	BH03	Total/NA	Solid	5035	
890-1450-7	ВН03А	Total/NA	Solid	5035	
MB 880-10011/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-10011/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-10011/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-7292-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-7292-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 10332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-1	BH01	Total/NA	Solid	8021B	10011
890-1450-2	BH01A	Total/NA	Solid	8021B	10011
890-1450-3	BH01B	Total/NA	Solid	8021B	10011
890-1450-4	BH02	Total/NA	Solid	8021B	10011
890-1450-5	BH02A	Total/NA	Solid	8021B	10011
890-1450-6	BH03	Total/NA	Solid	8021B	10011
890-1450-7	BH03A	Total/NA	Solid	8021B	10011
MB 880-10009/5-A	Method Blank	Total/NA	Solid	8021B	10009
MB 880-10011/5-A	Method Blank	Total/NA	Solid	8021B	10011
LCS 880-10011/1-A	Lab Control Sample	Total/NA	Solid	8021B	10011
LCSD 880-10011/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	10011
880-7292-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	10011
880-7292-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	10011

Analysis Batch: 10619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-1	BH01	Total/NA	Solid	Total BTEX	
890-1450-2	BH01A	Total/NA	Solid	Total BTEX	
890-1450-3	BH01B	Total/NA	Solid	Total BTEX	
890-1450-4	BH02	Total/NA	Solid	Total BTEX	
890-1450-5	BH02A	Total/NA	Solid	Total BTEX	
890-1450-6	BH03	Total/NA	Solid	Total BTEX	
890-1450-7	BH03A	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Analysis Batch: 10661

<b>Lab Sample ID</b> 890-1450-1	Client Sample ID BH01	Prep Type Total/NA	Matrix Solid	Method 8015B NM	Prep Batch 10752
890-1450-2	BH01A	Total/NA	Solid	8015B NM	10752
890-1450-3	BH01B	Total/NA	Solid	8015B NM	10752
890-1450-4	BH02	Total/NA	Solid	8015B NM	10752

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 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

GC Semi VOA (Continued)

#### **Analysis Batch: 10661 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-5	BH02A	Total/NA	Solid	8015B NM	10752
890-1450-6	BH03	Total/NA	Solid	8015B NM	10752
890-1450-7	BH03A	Total/NA	Solid	8015B NM	10752
MB 880-10752/1-A	Method Blank	Total/NA	Solid	8015B NM	10752
LCS 880-10752/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	10752
LCSD 880-10752/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	10752
890-1450-1 MS	BH01	Total/NA	Solid	8015B NM	10752
890-1450-1 MSD	BH01	Total/NA	Solid	8015B NM	10752

#### Analysis Batch: 10676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-1	BH01	Total/NA	Solid	8015 NM	
890-1450-2	BH01A	Total/NA	Solid	8015 NM	
890-1450-3	BH01B	Total/NA	Solid	8015 NM	
890-1450-4	BH02	Total/NA	Solid	8015 NM	
890-1450-5	BH02A	Total/NA	Solid	8015 NM	
890-1450-6	BH03	Total/NA	Solid	8015 NM	
890-1450-7	BH03A	Total/NA	Solid	8015 NM	

#### Prep Batch: 10752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-1	BH01	Total/NA	Solid	8015NM Prep	
890-1450-2	BH01A	Total/NA	Solid	8015NM Prep	
890-1450-3	BH01B	Total/NA	Solid	8015NM Prep	
890-1450-4	BH02	Total/NA	Solid	8015NM Prep	
890-1450-5	BH02A	Total/NA	Solid	8015NM Prep	
890-1450-6	BH03	Total/NA	Solid	8015NM Prep	
890-1450-7	BH03A	Total/NA	Solid	8015NM Prep	
MB 880-10752/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-10752/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-10752/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1450-1 MS	BH01	Total/NA	Solid	8015NM Prep	
890-1450-1 MSD	BH01	Total/NA	Solid	8015NM Prep	

#### **HPLC/IC**

#### Leach Batch: 10300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-1	BH01	Soluble	Solid	DI Leach	
890-1450-2	BH01A	Soluble	Solid	DI Leach	
MB 880-10300/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-10300/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-10300/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1449-A-10-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1449-A-10-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Leach Batch: 10301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-3	BH01B	Soluble	Solid	DI Leach	
890-1450-4	BH02	Soluble	Solid	DI Leach	
890-1450-5	BH02A	Soluble	Solid	DI Leach	

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 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

#### **HPLC/IC** (Continued)

#### Leach Batch: 10301 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-6	BH03	Soluble	Solid	DI Leach	
890-1450-7	BH03A	Soluble	Solid	DI Leach	
MB 880-10301/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-10301/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-10301/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-7343-A-21-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-7343-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 10506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-1	BH01	Soluble	Solid	300.0	10300
890-1450-2	BH01A	Soluble	Solid	300.0	10300
MB 880-10300/1-A	Method Blank	Soluble	Solid	300.0	10300
LCS 880-10300/2-A	Lab Control Sample	Soluble	Solid	300.0	10300
LCSD 880-10300/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	10300
890-1449-A-10-C MS	Matrix Spike	Soluble	Solid	300.0	10300
890-1449-A-10-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	10300

#### **Analysis Batch: 10621**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1450-3	BH01B	Soluble	Solid	300.0	10301
890-1450-4	BH02	Soluble	Solid	300.0	10301
890-1450-5	BH02A	Soluble	Solid	300.0	10301
890-1450-6	BH03	Soluble	Solid	300.0	10301
890-1450-7	BH03A	Soluble	Solid	300.0	10301
MB 880-10301/1-A	Method Blank	Soluble	Solid	300.0	10301
LCS 880-10301/2-A	Lab Control Sample	Soluble	Solid	300.0	10301
LCSD 880-10301/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	10301
880-7343-A-21-B MS	Matrix Spike	Soluble	Solid	300.0	10301
880-7343-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	10301

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Job ID: 890-1450-1

Client: WSP USA Inc. Project/Site: PLU 78 B SDG: 31403236.020.0129

**Client Sample ID: BH01** Lab Sample ID: 890-1450-1 Date Collected: 10/19/21 10:34

Matrix: Solid Date Received: 10/19/21 15:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			10011	10/20/21 14:16	KL	XEN MID
Total/NA	Analysis	8021B		1	10332	10/24/21 18:49	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	10619	10/26/21 15:12	KL	XEN MID
Total/NA	Analysis	8015 NM		1	10676	10/27/21 11:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10752	10/27/21 13:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1	10661	10/27/21 20:29	AJ	XEN MID
Soluble	Leach	DI Leach			10300	10/22/21 17:44	SC	XEN MID
Soluble	Analysis	300.0		10	10506	10/25/21 19:50	CH	XEN MID

Client Sample ID: BH01A Lab Sample ID: 890-1450-2

Date Collected: 10/19/21 10:47 Matrix: Solid Date Received: 10/19/21 15:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			10011	10/20/21 14:16	KL	XEN MID
Total/NA	Analysis	8021B		1	10332	10/24/21 20:13	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	10619	10/26/21 15:12	KL	XEN MID
Total/NA	Analysis	8015 NM		1	10676	10/27/21 11:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10752	10/27/21 13:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1	10661	10/27/21 21:29	AJ	XEN MID
Soluble	Leach	DI Leach			10300	10/22/21 17:44	SC	XEN MID
Soluble	Analysis	300.0		10	10506	10/25/21 19:57	CH	XEN MID

**Client Sample ID: BH01B** Lab Sample ID: 890-1450-3

Date Collected: 10/19/21 10:54 Date Received: 10/19/21 15:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			10011	10/20/21 14:16	KL	XEN MID
Total/NA	Analysis	8021B		1	10332	10/24/21 20:34	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	10619	10/26/21 15:12	KL	XEN MID
Total/NA	Analysis	8015 NM		1	10676	10/27/21 11:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10752	10/27/21 13:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1	10661	10/27/21 21:49	AJ	XEN MID
Soluble	Leach	DI Leach			10301	10/22/21 17:46	SC	XEN MID
Soluble	Analysis	300.0		20	10621	10/25/21 22:04	CH	XEN MID

**Client Sample ID: BH02** Lab Sample ID: 890-1450-4 Date Collected: 10/19/21 11:25 **Matrix: Solid** 

Date Received: 10/19/21 15:54

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	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			10011	10/20/21 14:16	KL	XEN MID
Total/NA	Analysis	8021B		1	10332	10/24/21 20:54	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	10619	10/26/21 15:12	KL	XEN MID

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**Matrix: Solid** 

#### **Lab Chronicle**

Client: WSP USA Inc. Job ID: 890-1450-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

**Client Sample ID: BH02** 

Date Received: 10/19/21 15:54

Lab Sample ID: 890-1450-4 Date Collected: 10/19/21 11:25

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	10676	10/27/21 11:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10752	10/27/21 13:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1	10661	10/27/21 22:10	AJ	XEN MID
Soluble	Leach	DI Leach			10301	10/22/21 17:46	SC	XEN MID
Soluble	Analysis	300.0		20	10621	10/25/21 22:22	CH	XEN MID

Client Sample ID: BH02A Lab Sample ID: 890-1450-5

Date Collected: 10/19/21 11:30 **Matrix: Solid** 

Date Received: 10/19/21 15:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			10011	10/20/21 14:16	KL	XEN MID
Total/NA	Analysis	8021B		1	10332	10/24/21 21:15	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	10619	10/26/21 15:12	KL	XEN MID
Total/NA	Analysis	8015 NM		1	10676	10/27/21 11:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10752	10/27/21 13:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1	10661	10/27/21 22:31	AJ	XEN MID
Soluble	Leach	DI Leach			10301	10/22/21 17:46	SC	XEN MID
Soluble	Analysis	300.0		10	10621	10/25/21 22:28	CH	XEN MID

**Client Sample ID: BH03** Lab Sample ID: 890-1450-6

Date Collected: 10/19/21 11:59 **Matrix: Solid** Date Received: 10/19/21 15:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			10011	10/20/21 14:16	KL	XEN MID
Total/NA	Analysis	8021B		1	10332	10/24/21 21:36	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	10619	10/26/21 15:12	KL	XEN MID
Total/NA	Analysis	8015 NM		1	10676	10/27/21 11:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10752	10/27/21 13:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1	10661	10/27/21 22:51	AJ	XEN MID
Soluble	Leach	DI Leach			10301	10/22/21 17:46	SC	XEN MID
Soluble	Analysis	300.0		10	10621	10/25/21 22:34	CH	XEN MID

Client Sample ID: BH03A Lab Sample ID: 890-1450-7

Date Collected: 10/19/21 12:05 **Matrix: Solid** Date Received: 10/19/21 15:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			10011	10/20/21 14:16	KL	XEN MID
Total/NA	Analysis	8021B		1	10332	10/24/21 21:57	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	10619	10/26/21 15:12	KL	XEN MID
Total/NA	Analysis	8015 NM		1	10676	10/27/21 11:09	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10752	10/27/21 13:40	DM	XEN MID
Total/NA	Analysis	8015B NM		1	10661	10/27/21 23:11	AJ	XEN MID

#### **Lab Chronicle**

Client: WSP USA Inc. Job ID: 890-1450-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

Client Sample ID: BH03A Lab Sample ID: 890-1450-7 Date Collected: 10/19/21 12:05

Matrix: Solid

Date Received: 10/19/21 15:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10301	10/22/21 17:46	SC	XEN MID
Soluble	Analysis	300.0		10	10621	10/25/21 22:39	CH	XEN MID

#### **Laboratory References:**

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

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

Client: WSP USA Inc. Job ID: 890-1450-1 Project/Site: PLU 78 B SDG: 31403236.020.0129

#### **Laboratory: Eurofins Xenco, Midland**

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

Authority	Pr	ogram	Identification Number	
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

#### **Method Summary**

 Client: WSP USA Inc.
 Job ID: 890-1450-1

 Project/Site: PLU 78 B
 SDG: 31403236.020.0129

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

Eurofins Xenco, Carlsbad

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#### **Sample Summary**

Client: WSP USA Inc. Project/Site: PLU 78 B Job ID: 890-1450-1

SDG: 31403236.020.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1450-1	BH01	Solid	10/19/21 10:34	10/19/21 15:54	1
890-1450-2	BH01A	Solid	10/19/21 10:47	10/19/21 15:54	3
890-1450-3	BH01B	Solid	10/19/21 10:54	10/19/21 15:54	4
890-1450-4	BH02	Solid	10/19/21 11:25	10/19/21 15:54	3
890-1450-5	BH02A	Solid	10/19/21 11:30	10/19/21 15:54	4
890-1450-6	BH03	Solid	10/19/21 11:59	10/19/21 15:54	3
890-1450-7	BH03A	Solid	10/19/21 12:05	10/19/21 15:54	4

## **Chain of Custody**

Revised Date 051418 Rev 2018 1											
			4 0	ŀ						N	Mista
			3:84 2	12/101	1101				<i>/\/</i>	7	V (VV), V(1)
Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Ф	Date/Time		ure)	Received by: (Signature)	Received		/:/Sjgnature)	Relinquished by
	it assigns standard terms and conditions the due to circumstances beyond the control inforced unless previously negotiated.	Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its artiliates and subcontractors, it assigns subtract terms and control 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.	incurred by out not analy	mpany to Xi or expenses to Xenco, t	y losses o	urchase order from asponsibility for an 5 for each sample s	assume any rud a charge of \$	f samples const les and shall not each project an	st of sample applied to	document and relinque liable only for the co arge of \$75.00 will be	Votice: Signature of this of service. Xenco will be of Xenco. A minimum c
0.0	1631 / 245	Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Ba Be Co	Sb As Ba Be	CRA ≥	TCLP / SPLP 6010: 8RCRA	TCLP/SI	nalyzed	to be ar	Circle Method(s) and Metal(s) to be analyzed	Circle Method(s)
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Discrete			×	×	1	ω	11:25	10/19/2021	S	)2	ВН02
Discrete			×	×		4.	10:54	10/19/2021	S	18	вно1в
Discrete			×	×	1	ယ္	10:47	10/19/2021	S	1A	BH01A
Discrete			×	×	1	<u></u>	10:34	10/19/2021	S	)1	BH01
Sample Comments	Sai		Chlorid	TPH (E	Numb	Depth	Time Sampled	Date Sampled	Matrix	ntification	Sample Identification
lab, if received by 4:30pm	la b.		le (E		er of	<u>*:</u>	Total Containers:	Tota		is: Yes No	Sample Custody Seals:
TAT starts the day recevied by the	TAT star		PA 3		f Co	7.0-	Correction Factor:	Corre	ANA)	s: Yes No	Cooler Custody Seals:
	Chair of Custody	090-1400 017	00.0	021)	ntai	م	2-00	7-1	No	(ES)	Received Intact:
			)		ners		Thermometer ID		'H-0	1221	Temperature (°C):
					8	No No	Wet Ice:	(es) No	Temp Blank:		SAMPLE RECEIPT
						Due Date:	Due	00	Elliot Lee		Sampler's Name:
Incident # NAPP2126639352	Incident					h:	Rush:				P.O. Number:
Cost Center # 1080781001	Cost Ce					tine 4	Routine	0.0129	31403236.020.0129	3140	Project Number:
Work Order Notes	Wo	ANALYSIS REQUEST				Turn Around	1	В	PLU 78 B		Project Name:
Other:	Deliverables: EDD ADaPT	Tacoma.Morrissey@wsp.com Deliv	/orrissey(	Tacoma.h	III"	l: Elliot.Lee@wsp.com	Email:			(432) 236-3849	Phone:
SRP LEVEL IV	Level III S1/US1		Carlsbad, NM, 88220	arisbad,		City, State ZIP:			705	Midland, Tx 79705	City, State ZIP:
	) ##		3104 E Green Street	104 E Gr	u	Address:			treet	3300 North A Street	Address:
□RC □perfund □	□RP □rownfields	Prog	у	XTO Energy		Company Name:			office	WSP Permian office	Company Name:
is	Work Order Comments		er	Adrian Baker		Bill to: (if different)				Dan Moir	Project Manager:
1 of1	00) www.xenco.com <sup>2</sup> age_	Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)	Atlanta, GA	355-0900)	AZ (480-3	2-7550) Phoenix,	s,NM (575-39	Hobb			
•		Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296	115)585-34	Paso,TX (9	140) EL F	nd,TX (432-704-5	Midla		m C		
		Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334	902-0300	s,TX (214)	00 Dalla	n,TX (281) 240-42	Housto			、	

Work Order No:

**Eurofins Xenco, Carlsbad** 

1089 N Canal St.

# Chain of Custody Record

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eurofins |

Environment Testing

Project Name<sup>\*</sup> PLU 78 B State Zip TX, 79701 Vote: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC. BH03A (890-1450-7) BH03 (890-1450-6) BH02A (890-1450-5) BH02 (890-1450-4) BH01B (890-1450-3) BH01A (890-1450-2) BH01 (890-1450-1) Sample Identification - Client ID (Lab ID) Deliverable Requested | II III IV Other (specify) Midland Shipping/Receiving Client Information (Sub Contract Lab) Carlsbad NM 88220 Phone 575-988-3199 Fax: 575-988-3199 ossible Hazard Identification 432-704-5440(Tel) Eurofins Xenco impty Kit Relinquished by 1211 W Florida Ave elinquished by Custody Seals Intact. linquished by linquished by: Ύes No S Custody Seal No 0 600 Date/Time Date/Time Primary Deliverable Rank WO#: TAT Requested (days) Due Date Requested 10/25/2021 Phone 39000004 roject #: 10/19/21 10/19/21 10/19/21 10/19/21 10/19/21 10/19/21 10/19/21 Date Mountain 12 05 Mountain 11 30 Mountain 10 47 Mountain Mountain 11 59 Mountain 11 25 Mountain 10 54 10 34 (C=Comp G=grab) Sample Preservation Code: Type Company Company Matrix Solid Solid Solid Solid Solid Solid Solid Kramer, Jessica essica kramer@eurofinset.com Time. Field Filtered Sample (Yes or No) Accreditations Required (See note)
NELAP - Louisiana NELAP - Texas Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Perform MS/MSD (Yes or No) Special Instructions/QC Requirements Received by: 8015MOD\_NM/8015NM\_S\_Prep (MOD) Full TPH Cooler Temperature(s) °C and Other Remarks ×  $\times$ × ×  $\times$ ×  $\times$ Return To Client × × ×  $\times$ × 8015MOD\_Calc  $\times$ × × × × × 300\_ORGFM\_28D/DI\_LEACH Chloride × × × ×  $\times$ × × 8021B/5035FP Calc (MOD) BTEX × Analysis Requested Total\_BTEX\_GCV Disposal By Lab State of Origin New Mexico Carrier Tracking No(s) Date/Time Date/Time Archive For Total Number of containers \*\*\* C 6 COC No<sup>-</sup> 890-471 1 890-1450-1 Preservation Codes Page 1 of 1 I DI Water C EDTA EDA NaOH

D Zn Acetate

D Nitric Acid

NaHSO4

MeOH

S Amchlor

Ascorbic Acid 된 Special Instructions/Note Company Company Ver: 06/08/2021 TSP Dodecahydrate
Acetone Hexane None AsNaO2 Na2O4S Na2SO3 Na2S2O3 other (specify) MCAA

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

Client: WSP USA Inc.

Job Number: 890-1450-1

SDG Number: 31403236.020.0129

Login Number: 1450 List Source: Eurofins Xenco, Carlsbad

List Number: 1

<6mm (1/4").

Creator: Olivas, Nathaniel

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	N/A	

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10/28/2021

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

Client: WSP USA Inc.

Job Number: 890-1450-1

SDG Number: 31403236.020.0129

List Source: Eurofins Xenco, Midland

List Creation: 10/21/21 10:24 AM

Login Number: 1450 List Number: 2

Creator: Kramer, Jessica

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6/1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Eurofins Xenco, Carlsbad

Page 29 of 29



### **Environment Testing America**

#### **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1497-1

Laboratory Sample Delivery Group: 31403236.020.0129

Client Project/Site: PLU 78B

For:

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

Attn: Kalei Jennings

MRAMER

Authorized for release by: 11/2/2021 8:07:38 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: 8/22/2022 2:38:20 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.

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 Client: WSP USA Inc.
 Laboratory Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

#### **Table of Contents**

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#### **Definitions/Glossary**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

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#### **Qualifiers**

**GC VOA** 

Qualifier Description

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

**GC Semi VOA** 

Qualifier Qualifier Description

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

**HPLC/IC** 

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.

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

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

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

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

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

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

NC Not Calculated

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

NEG Negative / Absent
POS Positive / Present

PQL Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

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

TNTC Too Numerous To Count

Eurofins Xenco, Carlsbad

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#### **Case Narrative**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

Job ID: 890-1497-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-1497-1

#### Receipt

The samples were received on 10/28/2021 2:48 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

#### **GC VOA**

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

#### GC Semi VOA

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-11018 and analytical batch 880-11030 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### HPLC/IC

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

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Lab Sample ID: 890-1497-1

#### **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

Client Sample ID: SW01

Date Collected: 10/27/21 14:04 Date Received: 10/28/21 14:48

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 15:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 15:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 15:29	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/01/21 08:33	11/01/21 15:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 15:29	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/01/21 08:33	11/01/21 15:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130			11/01/21 08:33	11/01/21 15:29	1
1,4-Difluorobenzene (Surr)	103		70 - 130			11/01/21 08:33	11/01/21 15:29	1
Method: Total BTEX - Total BTE	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/01/21 14:19	1
Analyte Total TPH		Qualifier	RL 49.9	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH			49.9	mg/Kg	_ <u>-</u>		11/01/21 12:47	
								1
14 () 1 00(1ED 1)11 D: 1 D								1
Method: 8015B NM - Diesei Rang	ge Organics (D	RO) (GC)						1
Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Analyte Gasoline Range Organics	•	Qualifier	<b>RL</b> 49.9	<mark>Unit</mark> mg/Kg	<u>D</u>	Prepared 11/01/21 08:28		·
Analyte Gasoline Range Organics (GRO)-C6-C10	Result	Qualifier U			<u>D</u>		Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <49.9	Qualifier U	49.9	mg/Kg	<u> </u>	11/01/21 08:28	Analyzed 11/01/21 17:39	Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <49.9	Qualifier U	49.9	mg/Kg	<u> </u>	11/01/21 08:28	Analyzed 11/01/21 17:39	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier U U U	49.9 49.9 49.9 <b>Limits</b>	mg/Kg	<u>D</u>	11/01/21 08:28 11/01/21 08:28 11/01/21 08:28 Prepared	Analyzed 11/01/21 17:39 11/01/21 17:39 11/01/21 17:39 Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier U U U	49.9 49.9 49.9 <b>Limits</b> 70 - 130	mg/Kg	<u> </u>	11/01/21 08:28 11/01/21 08:28 11/01/21 08:28 Prepared 11/01/21 08:28	Analyzed 11/01/21 17:39 11/01/21 17:39 11/01/21 17:39 Analyzed 11/01/21 17:39	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result	Qualifier U U U	49.9 49.9 49.9 <b>Limits</b>	mg/Kg	<u>D</u>	11/01/21 08:28 11/01/21 08:28 11/01/21 08:28 Prepared	Analyzed 11/01/21 17:39 11/01/21 17:39 11/01/21 17:39 Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier  U  U  Qualifier	49.9 49.9 49.9 <b>Limits</b> 70 - 130	mg/Kg	<u>D</u>	11/01/21 08:28 11/01/21 08:28 11/01/21 08:28 Prepared 11/01/21 08:28	Analyzed 11/01/21 17:39 11/01/21 17:39 11/01/21 17:39 Analyzed 11/01/21 17:39	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier  U  U  Qualifier	49.9 49.9 49.9 <b>Limits</b> 70 - 130	mg/Kg	<u>D</u>	11/01/21 08:28 11/01/21 08:28 11/01/21 08:28 Prepared 11/01/21 08:28	Analyzed 11/01/21 17:39 11/01/21 17:39 11/01/21 17:39 Analyzed 11/01/21 17:39	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane 0-Terphenyl  Method: 300.0 - Anions, Ion Chro	Result	Qualifier  U  U  Qualifier  Soluble Qualifier	49.9 49.9 49.9  Limits 70 - 130 70 - 130	mg/Kg mg/Kg mg/Kg		11/01/21 08:28 11/01/21 08:28 11/01/21 08:28 Prepared 11/01/21 08:28 11/01/21 08:28	Analyzed 11/01/21 17:39 11/01/21 17:39 11/01/21 17:39 Analyzed 11/01/21 17:39 11/01/21 17:39	Dil Fa

**Client Sample ID: SW02** 

Date Collected: 10/27/21 14:06 Date Received: 10/28/21 14:48

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/01/21 08:33	11/01/21 15:49	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/01/21 08:33	11/01/21 15:49	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		11/01/21 08:33	11/01/21 15:49	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		11/01/21 08:33	11/01/21 15:49	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/01/21 08:33	11/01/21 15:49	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		11/01/21 08:33	11/01/21 15:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130			11/01/21 08:33	11/01/21 15:49	1

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Lab Sample ID: 890-1497-2

Matrix: Solid

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11/2/2021

Lab Sample ID: 890-1497-2

11/01/21 18:01

11/01/21 18:01

**Matrix: Solid** 

#### **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

Client Sample ID: SW02

Date Collected: 10/27/21 14:06 Date Received: 10/28/21 14:48

Sample Depth: 0 - 4

Method: 8021B - Volatile Organic Compound	s (GC) (Continued)
-------------------------------------------	--------------------

Surrogate	%Recovery Qual	alifier Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	70	70 - 130	11/01/21 08:33	11/01/21 15:49	1

N 0 - 41 1 -	T - 4 - 1	DTEV	T-4-1	DTEV	0-11-41
wetnoa:	iotai	RIFY -	- Iotai	RIFY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			11/01/21 14:19	1

ı					
ı	Method: 8015 NM - Γ	ligeal Range (	Irganice	(DRO) (G	C

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/01/21 12:47	1

Method: 8015B NM - Diese	I Range Organics	(DRO)	(GC)
moundar of ros run Sido	tungo organioo	()	1/

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		11/01/21 08:28	11/01/21 18:01	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		11/01/21 08:28	11/01/21 18:01	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/01/21 08:28	11/01/21 18:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

1-Chlorooctane	90	70 - 130	11/01/21 08:28
o-Terphenyl	104	70 - 130	11/01/21 08:28

Method: 300.0 - Anions, Ion Chromatography - Soluble									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	17.1		5.00	mg/Kg			11/01/21 16:51	1

Client Sample ID: SW06 Lab Sample ID: 890-1497-3

Date Collected: 10/27/21 14:42 Date Received: 10/28/21 14:48

Sample Depth: 0 - 4

Method: 8021B - Volatile Organic Compounds (GC)

		/						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 17:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 17:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 17:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/01/21 08:33	11/01/21 17:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 17:12	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/01/21 08:33	11/01/21 17:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130			11/01/21 08:33	11/01/21 17:12	1
1,4-Difluorobenzene (Surr)	104		70 - 130			11/01/21 08:33	11/01/21 17:12	1

Mothod:	Total RTEY	- Total RTFY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			11/01/21 14:19	1

Method: 8015 NM - Diese	Range Organics	(DRO)	(GC)	
Method, out of Min - Diese	i Kange Organica	(DIXO)	(00)	

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/01/21 12:47	1

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Lab Sample ID: 890-1497-3

#### **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

Client Sample ID: SW06

Date Collected: 10/27/21 14:42 Date Received: 10/28/21 14:48

Sample Depth: 0 - 4

Method: 8015B NM - Diesel Range								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/01/21 08:28	11/01/21 18:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/01/21 08:28	11/01/21 18:22	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	ma/Ka		11/01/21 08:28	11/01/21 18:22	1

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	80	70 - 130	11/01/21 08:28	11/01/21 18:22	1
o-Terphenyl	89	70 - 130	11/01/21 08:28	11/01/21 18:22	1

Method: 300.0 - Anions, Ion Chromatography - Soluble							
Analyte	Result Qual	lifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6420	50.4	mg/Kg	<del></del>		11/01/21 17:08	10

Client Sample ID: SW07

Date Collected: 10/27/21 08:38

Lab Sample ID: 890-1497-4

Matrix: Solid

Date Received: 10/28/21 14:48

Sample Depth: 0 - 4

Method: 8021B - Volatile Organic	: Compounds (GC)
Analyto	Popult Qualif

Ana	alyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ber	nzene	<0.00201	U	0.00201	mg/Kg		11/01/21 08:33	11/01/21 17:33	1
Tol	uene	< 0.00201	U	0.00201	mg/Kg		11/01/21 08:33	11/01/21 17:33	1
Eth	ylbenzene	< 0.00201	U	0.00201	mg/Kg		11/01/21 08:33	11/01/21 17:33	1
m-X	Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		11/01/21 08:33	11/01/21 17:33	1
o-X	(ylene	< 0.00201	U	0.00201	mg/Kg		11/01/21 08:33	11/01/21 17:33	1
Xyl	enes, Total	< 0.00402	U	0.00402	mg/Kg		11/01/21 08:33	11/01/21 17:33	1

Surrogate	%Recovery Qua	ualifier Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112	70 - 130	11/01/21 08:33	11/01/21 17:33	1
1,4-Difluorobenzene (Surr)	73	70 - 130	11/01/21 08:33	11/01/21 17:33	1

Method:	Total I	BTEX -	Total B	TEX	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			11/01/21 14:19	1

welliou. 60 15 NW - Diesel Kange Organii	55 (	(DKO)	(GC)
	_		

Analyte	Result Qualific		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8 U	49.8	mg/Kg			11/01/21 12:47	1

Method: 8015B	NM - Diesel Range	Organics (DRO) (GC)
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moniour correction brocks runge	J. ga55 (2)	(00)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.8	U	49.8	mg/Kg		11/01/21 08:28	11/01/21 18:44	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.8	U	49.8	mg/Kg		11/01/21 08:28	11/01/21 18:44	1
C10-C28)								
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/01/21 08:28	11/01/21 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130	11/01/21 08:28	11/01/21 18:44	1
o-Terphenyl	91		70 - 130	11/01/21 08:28	11/01/21 18:44	1

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#### **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

Client Sample ID: SW07 Lab Sample ID: 890-1497-4

Date Collected: 10/27/21 08:38 Matrix: Solid
Date Received: 10/28/21 14:48

Sample Depth: 0 - 4

Method: 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	20.9		4.97	mg/Kg			11/01/21 17:14	1		

Client Sample ID: SW09 Lab Sample ID: 890-1497-5

Date Collected: 10/27/21 13:25 Date Received: 10/28/21 14:48

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa	
Benzene	<0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 17:53		
Toluene	< 0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 17:53		
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 17:53	1	
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/01/21 08:33	11/01/21 17:53	1	
o-Xylene	< 0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 17:53	1	
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/01/21 08:33	11/01/21 17:53	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130			11/01/21 08:33	11/01/21 17:53	1	
1,4-Difluorobenzene (Surr)	92		70 - 130			11/01/21 08:33	11/01/21 17:53	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			11/01/21 14:19	1	
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.9	U	49.9	mg/Kg			11/01/21 12:47	1	
Method: 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/01/21 08:28	11/01/21 19:06	1	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/01/21 08:28	11/01/21 19:06	1	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/01/21 08:28	11/01/21 19:06	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	79		70 - 130			11/01/21 08:28	11/01/21 19:06	1	
o-Terphenyl	86		70 - 130			11/01/21 08:28	11/01/21 19:06	1	
Method: 300.0 - Anions, Ion Chro	matography -	Soluble							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
						•	-		

Lab Sample ID: 890-1497-6

#### **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

Client Sample ID: SW11

Date Collected: 10/27/21 10:21 Date Received: 10/28/21 14:48

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 18:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 18:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 18:14	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		11/01/21 08:33	11/01/21 18:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 18:14	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		11/01/21 08:33	11/01/21 18:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			11/01/21 08:33	11/01/21 18:14	1
1,4-Difluorobenzene (Surr)	103		70 - 130			11/01/21 08:33	11/01/21 18:14	1
Method: Total BTEX - Total BTEX	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/01/21 12:47	1
Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	
Gasoline Range Organics							Allalyzeu	Dil Fac
5 5	<49.9	U	49.9	mg/Kg		11/01/21 08:28	11/01/21 19:27	
5 5	<49.9 <49.9		49.9 49.9	mg/Kg		11/01/21 08:28 11/01/21 08:28		1
(GRO)-C6-C10 Diesel Range Organics (Over		U					11/01/21 19:27	1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.9	U U	49.9	mg/Kg		11/01/21 08:28	11/01/21 19:27	1 1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)	<49.9 <49.9	U U	49.9 49.9	mg/Kg		11/01/21 08:28 11/01/21 08:28	11/01/21 19:27 11/01/21 19:27 11/01/21 19:27	1 1 1 1 Dil Fac
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	<49.9 <49.9 <b>%Recovery</b>	U U	49.9 49.9 <i>Limits</i>	mg/Kg		11/01/21 08:28 11/01/21 08:28 Prepared	11/01/21 19:27 11/01/21 19:27 11/01/21 19:27 Analyzed	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	<49.9 <49.9 <b>%Recovery</b> 75 81	U U <b>Qualifier</b>	49.9 49.9  Limits 70 - 130	mg/Kg		11/01/21 08:28 11/01/21 08:28 Prepared 11/01/21 08:28	11/01/21 19:27 11/01/21 19:27 11/01/21 19:27 <b>Analyzed</b> 11/01/21 19:27	Dil Face  1  Dil Face  1  Dil Face
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	<49.9 <49.9  **Recovery 75 81  **Domatography -	U U <b>Qualifier</b>	49.9 49.9  Limits 70 - 130	mg/Kg		11/01/21 08:28 11/01/21 08:28 Prepared 11/01/21 08:28	11/01/21 19:27 11/01/21 19:27 11/01/21 19:27 <b>Analyzed</b> 11/01/21 19:27	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

#### **Surrogate Summary**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1497-1	SW01	122	103	
390-1497-2	SW02	122	70	
390-1497-3	SW06	112	104	
390-1497-4	SW07	112	73	
390-1497-5	SW09	141 S1+	92	
390-1497-6	SW11	111	103	
390-1498-A-1-A MS	Matrix Spike	117	99	
390-1498-A-1-B MSD	Matrix Spike Duplicate	119	103	
_CS 880-11021/1-A	Lab Control Sample	121	103	
_CSD 880-11021/2-A	Lab Control Sample Dup	110	100	
MB 880-11021/5-A	Method Blank	106	101	
Surrogate Legend				

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid Prep Type: Total/NA

		1001	ОТРН1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
 890-1497-1	SW01	83	93	
890-1497-2	SW02	90	104	
890-1497-3	SW06	80	89	
890-1497-4	SW07	81	91	
890-1497-5	SW09	79	86	
890-1497-6	SW11	75	81	
890-1499-A-2-D MS	Matrix Spike	75	76	
890-1499-A-2-E MSD	Matrix Spike Duplicate	85	86	
LCS 880-11018/2-A	Lab Control Sample	71	77	
LCSD 880-11018/3-A	Lab Control Sample Dup	81	91	
MB 880-11018/1-A	Method Blank	95	113	

OTPH = o-Terphenyl

#### **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1497-1 Project/Site: PLU 78B SDG: 31403236.020.0129

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

Lab Sample ID: MB 880-11021/5-A

**Matrix: Solid** Analysis Batch: 11022 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 11021

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/01/21 08:33	11/01/21 12:08	1

MB MB

Surrogate	%Recovery Qu	ualifier Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106	70 - 130	11/01/21 08:33	11/01/21 12:08	1
1,4-Difluorobenzene (Surr)	101	70 - 130	11/01/21 08:33	11/01/21 12:08	1

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 880-11021/1-A

**Matrix: Solid** 

Analysis Batch: 11022

Prep Type: Total/NA

Prep Batch: 11021

	<b>Spike</b>	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08284	-	mg/Kg		83	70 - 130	
Toluene	0.100	0.08405		mg/Kg		84	70 - 130	
Ethylbenzene	0.100	0.08962		mg/Kg		90	70 - 130	
m-Xylene & p-Xylene	0.200	0.1923		mg/Kg		96	70 - 130	
o-Xylene	0.100	0.09704		mg/Kg		97	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	121	70 - 130
1,4-Difluorobenzene (Surr)	103	70 - 130

Lab Sample ID: LCSD 880-11021/2-A

Matrix: Solid

Analysis Batch: 11022

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

Prep Type: Total/NA

Prep Batch: 11021

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.07647		mg/Kg		76	70 - 130	8	35
Toluene	0.100	0.07398		mg/Kg		74	70 - 130	13	35
Ethylbenzene	0.100	0.07944		mg/Kg		79	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.1712		mg/Kg		86	70 - 130	12	35
o-Xylene	0.100	0.08722		mg/Kg		87	70 - 130	11	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	110	70 - 130
1,4-Difluorobenzene (Surr)	100	70 - 130

Lab Sample ID: 890-1498-A-1-B MSD

**Matrix: Solid** 

**Analysis Batch: 11022** 

**Client Sample ID: Matrix Spike Duplicate** 

Prep Type: Total/NA

Prep Batch: 11021

RPD imit

	Sample	Sample	Spike	MSD	MSD				%Rec.		RP
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Lim
Benzene	<0.00199	U	0.0998	0.07206		mg/Kg					
Toluene	< 0.00199	U	0.0998	0.07077		ma/Ka					

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#### QC Sample Results

Client: WSP USA Inc. Job ID: 890-1497-1 Project/Site: PLU 78B SDG: 31403236.020.0129

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

Lab Sample ID: 890-1498-A-1-B MSD **Matrix: Solid** 

**Analysis Batch: 11022** 

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 11021

Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Ethylbenzene < 0.00199 U 0.0998 0.07668 mg/Kg m-Xylene & p-Xylene <0.00398 0.200 0.1630 mg/Kg 0.0998 o-Xylene <0.00199 U 0.08213 mg/Kg

MSD MSD

Surrogate	%Recovery (	Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 890-1498-A-1-A MS

**Matrix: Solid** 

**Analysis Batch: 11022** 

Client Sample ID: Matrix Spike

Prep Type: Total/NA

MS MS Limits Surrogate %Recovery Qualifier 4-Bromofluorobenzene (Surr) 117 70 - 130 70 - 130 1,4-Difluorobenzene (Surr) 99

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

Lab Sample ID: MB 880-11018/1-A

Matrix: Solid

**Analysis Batch: 11030** 

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 11018

	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		11/01/21 08:28	11/01/21 11:33	1
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		11/01/21 08:28	11/01/21 11:33	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/01/21 08:28	11/01/21 11:33	1
	Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Analyte Result Gasoline Range Organics <50.0 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 C10-C28)	Gasoline Range Organics <50.0 U (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U C10-C28)	Analyte         Result         Qualifier         RL           Gasoline Range Organics         <50.0	Analyte         Result         Qualifier         RL         Unit           Gasoline Range Organics         <50.0	Analyte         Result         Qualifier         RL         Unit         D           Gasoline Range Organics         <50.0	Analyte         Result         Qualifier         RL         Unit         D         Prepared           Gasoline Range Organics         <50.0	Analyte         Result         Qualifier         RL         Unit         D         Prepared         Analyzed           Gasoline Range Organics         <50.0

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 70 - 130 95 o-Terphenyl 113 70 - 130

Prepared Analyzed 11/01/21 11:33 11/01/21 08:28 11/01/21 08:28 11/01/21 11:33

Lab Sample ID: LCS 880-11018/2-A **Matrix: Solid** 

MB MB

**Analysis Batch: 11030** 

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

Prep Batch: 11018

Dil Fac

Spike LCS LCS Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 1022 102 70 - 130 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 733.9 mg/Kg 73 70 - 130 C10-C28)

LCS LCS

Surrogate	%Recovery Qua	lifier Limits
1-Chlorooctane	71	70 - 130
o-Terphenyl	77	70 - 130

Lab Sample ID: LCSD 880-11018/3-A

#### QC Sample Results

Job ID: 890-1497-1 Client: WSP USA Inc. SDG: 31403236.020.0129 Project/Site: PLU 78B

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

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 11018

Prep Batch: 11018

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	1013		mg/Kg		101	70 - 130	1	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	775.2		mg/Kg		78	70 - 130	5	20
C10 C20)									

C10-C28)

**Matrix: Solid** 

Analysis Batch: 11030

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 890-1499-A-2-D MS Client Sample ID: Matrix Spike Prep Type: Total/NA

Matrix: Solid

**Analysis Batch: 11030** 

	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	997	889.3		mg/Kg		89	70 - 130	
Diesel Range Organics (Over	<49.9	U F1	997	663.3	F1	mg/Kg		67	70 - 130	

C10-C28)

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	75		70 - 130
o-Terphenyl	76		70 - 130

Lab Sample ID: 890-1499-A-2-E MSD Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 11030									Prep	Batch:	11018
	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	1000	940.4		mg/Kg		94	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	1000	783.6		mg/Kg		78	70 - 130	17	20

Surrogate	%Recovery Qualifier	Limits
1-Chlorooctane	85	70 - 130
o-Terphenyl	86	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-11038/1-A

MSD MSD

**Matrix: Solid** 

**Analysis Batch: 11110** 

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			11/01/21 12:38	1

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Client Sample ID: Method Blank

**Prep Type: Soluble** 

#### QC Sample Results

Client: WSP USA Inc. Job ID: 890-1497-1 Project/Site: PLU 78B SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-11038/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 11110** 

Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit D Chloride 250 240.3 mg/Kg 96 90 - 110

Lab Sample ID: LCSD 880-11038/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 11110** 

Spike LCSD LCSD %Rec. RPD Added Analyte Result Qualifier Unit D %Rec Limits RPD Limit Chloride 250 236.8 mg/Kg 90 - 110

Lab Sample ID: 890-1499-A-9-E MS Client Sample ID: Matrix Spike

**Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 11110** 

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 155 249 416.2 mg/Kg 105 90 - 110

Lab Sample ID: 890-1499-A-9-F MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 11110** 

MSD MSD RPD Spike %Rec. Sample Sample Limit Added RPD Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Chloride 155 249 409.1 102 90 - 110 20 mg/Kg

Lab Sample ID: MB 880-11106/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 11131** 

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac <5.00 U 5.00 Chloride mg/Kg 11/01/21 16:33

MR MR

Lab Sample ID: LCS 880-11106/2-A Client Sample ID: Lab Control Sample Matrix: Solid **Prep Type: Soluble** 

**Analysis Batch: 11131** 

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit %Rec Limits Chloride 250 242 9 mg/Kg 90 - 110

Lab Sample ID: LCSD 880-11106/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 11131** 

LCSD LCSD %Rec. RPD Spike Added Result Qualifier Limits RPD Limit Analyte Unit D %Rec Chloride 250 239.8 mg/Kg 96 90 - 110 20

Lab Sample ID: 890-1497-2 MS Client Sample ID: SW02 **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 11131** 

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 17.1 250 281.1 mg/Kg 106 90 - 110

#### **QC Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-1497-2 MSD

Matrix: Solid

Client Sample ID: SW02

Prep Type: Soluble

Analysis Batch: 11131

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	17.1		250	279.5		mg/Kg		105	90 - 110	1	20

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Client: WSP USA Inc. Job ID: 890-1497-1 Project/Site: PLU 78B SDG: 31403236.020.0129

#### **GC VOA**

#### Prep Batch: 11021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1497-1	SW01	Total/NA	Solid	5035	
890-1497-2	SW02	Total/NA	Solid	5035	
890-1497-3	SW06	Total/NA	Solid	5035	
890-1497-4	SW07	Total/NA	Solid	5035	
890-1497-5	SW09	Total/NA	Solid	5035	
890-1497-6	SW11	Total/NA	Solid	5035	
MB 880-11021/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-11021/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-11021/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1498-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### **Analysis Batch: 11022**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1497-1	SW01	Total/NA	Solid	8021B	11021
890-1497-2	SW02	Total/NA	Solid	8021B	11021
890-1497-3	SW06	Total/NA	Solid	8021B	11021
890-1497-4	SW07	Total/NA	Solid	8021B	11021
890-1497-5	SW09	Total/NA	Solid	8021B	11021
890-1497-6	SW11	Total/NA	Solid	8021B	11021
MB 880-11021/5-A	Method Blank	Total/NA	Solid	8021B	11021
LCS 880-11021/1-A	Lab Control Sample	Total/NA	Solid	8021B	11021
LCSD 880-11021/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	11021
890-1498-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	
890-1498-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	11021

#### Analysis Batch: 11149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1497-1	SW01	Total/NA	Solid	Total BTEX	
890-1497-2	SW02	Total/NA	Solid	Total BTEX	
890-1497-3	SW06	Total/NA	Solid	Total BTEX	
890-1497-4	SW07	Total/NA	Solid	Total BTEX	
890-1497-5	SW09	Total/NA	Solid	Total BTEX	
890-1497-6	SW11	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Prep Batch: 11018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1497-1	SW01	Total/NA	Solid	8015NM Prep	
890-1497-2	SW02	Total/NA	Solid	8015NM Prep	
890-1497-3	SW06	Total/NA	Solid	8015NM Prep	
890-1497-4	SW07	Total/NA	Solid	8015NM Prep	
890-1497-5	SW09	Total/NA	Solid	8015NM Prep	
890-1497-6	SW11	Total/NA	Solid	8015NM Prep	
MB 880-11018/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-11018/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-11018/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1499-A-2-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1499-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

#### GC Semi VOA

#### Analysis Batch: 11030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1497-1	SW01	Total/NA	Solid	8015B NM	11018
890-1497-2	SW02	Total/NA	Solid	8015B NM	11018
890-1497-3	SW06	Total/NA	Solid	8015B NM	11018
890-1497-4	SW07	Total/NA	Solid	8015B NM	11018
890-1497-5	SW09	Total/NA	Solid	8015B NM	11018
890-1497-6	SW11	Total/NA	Solid	8015B NM	11018
MB 880-11018/1-A	Method Blank	Total/NA	Solid	8015B NM	11018
LCS 880-11018/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	11018
LCSD 880-11018/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	11018
890-1499-A-2-D MS	Matrix Spike	Total/NA	Solid	8015B NM	11018
890-1499-A-2-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	11018

#### **Analysis Batch: 11118**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1497-1	SW01	Total/NA	Solid	8015 NM	
890-1497-2	SW02	Total/NA	Solid	8015 NM	
890-1497-3	SW06	Total/NA	Solid	8015 NM	
890-1497-4	SW07	Total/NA	Solid	8015 NM	
890-1497-5	SW09	Total/NA	Solid	8015 NM	
890-1497-6	SW11	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 11038

Lab Sample ID 890-1497-1	Client Sample ID SW01	Prep Type Soluble	Matrix Solid	Method DI Leach	Prep Batch
MB 880-11038/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-11038/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-11038/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1499-A-9-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1499-A-9-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Leach Batch: 11106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1497-2	SW02	Soluble	Solid	DI Leach	
890-1497-3	SW06	Soluble	Solid	DI Leach	
890-1497-4	SW07	Soluble	Solid	DI Leach	
890-1497-5	SW09	Soluble	Solid	DI Leach	
890-1497-6	SW11	Soluble	Solid	DI Leach	
MB 880-11106/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-11106/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-11106/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1497-2 MS	SW02	Soluble	Solid	DI Leach	
890-1497-2 MSD	SW02	Soluble	Solid	DI Leach	

#### **Analysis Batch: 11110**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1497-1	SW01	Soluble	Solid	300.0	11038
MB 880-11038/1-A	Method Blank	Soluble	Solid	300.0	11038
LCS 880-11038/2-A	Lab Control Sample	Soluble	Solid	300.0	11038
LCSD 880-11038/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	11038

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11/2/2021

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Client: WSP USA Inc. Job ID: 890-1497-1 Project/Site: PLU 78B SDG: 31403236.020.0129

#### **HPLC/IC** (Continued)

#### **Analysis Batch: 11110 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1499-A-9-E MS	Matrix Spike	Soluble	Solid	300.0	11038
890-1499-A-9-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	11038

#### **Analysis Batch: 11131**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1497-2	SW02	Soluble	Solid	300.0	11106
890-1497-3	SW06	Soluble	Solid	300.0	11106
890-1497-4	SW07	Soluble	Solid	300.0	11106
890-1497-5	SW09	Soluble	Solid	300.0	11106
890-1497-6	SW11	Soluble	Solid	300.0	11106
MB 880-11106/1-A	Method Blank	Soluble	Solid	300.0	11106
LCS 880-11106/2-A	Lab Control Sample	Soluble	Solid	300.0	11106
LCSD 880-11106/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	11106
890-1497-2 MS	SW02	Soluble	Solid	300.0	11106
890-1497-2 MSD	SW02	Soluble	Solid	300.0	11106

#### Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1497-1 Project/Site: PLU 78B SDG: 31403236.020.0129

Client Sample ID: SW01

Lab Sample ID: 890-1497-1 Date Collected: 10/27/21 14:04 **Matrix: Solid** 

Date Received: 10/28/21 14:48

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11021	11/01/21 08:33	KL	XEN MID
Total/NA	Analysis	8021B		1	11022	11/01/21 15:29	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11149	11/01/21 14:19	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11118	11/01/21 12:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11018	11/01/21 08:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11030	11/01/21 17:39	AJ	XEN MID
Soluble	Leach	DI Leach			11038	11/01/21 09:55	CH	XEN MID
Soluble	Analysis	300.0		1	11110	11/01/21 15:34	CH	XEN MID

**Client Sample ID: SW02** Lab Sample ID: 890-1497-2

Date Collected: 10/27/21 14:06 **Matrix: Solid** 

Date Received: 10/28/21 14:48

Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst Lab 5035 XEN MID Total/NA Prep 11021 11/01/21 08:33 KL 8021B Total/NA 11/01/21 15:49 XEN MID Analysis 11022 KL Total/NA Total BTEX 11/01/21 14:19 XEN MID Analysis 1 11149 A.I XEN MID Total/NA Analysis 8015 NM 11118 11/01/21 12:47 Total/NA 11018 11/01/21 08:28 XEN MID Prep 8015NM Prep DM Total/NA Analysis 8015B NM 11030 11/01/21 18:01 AJ XEN MID XEN MID Soluble 11/01/21 11:53 Leach DI Leach 11106 SC Soluble Analysis 300.0 1 11131 11/01/21 16:51 СН XEN MID

Lab Sample ID: 890-1497-3 Client Sample ID: SW06 Date Collected: 10/27/21 14:42 **Matrix: Solid** 

Date Received: 10/28/21 14:48

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11021	11/01/21 08:33	KL	XEN MID
Total/NA	Analysis	8021B		1	11022	11/01/21 17:12	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11149	11/01/21 14:19	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11118	11/01/21 12:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11018	11/01/21 08:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11030	11/01/21 18:22	AJ	XEN MID
Soluble	Leach	DI Leach			11106	11/01/21 11:53	SC	XEN MID
Soluble	Analysis	300.0		10	11131	11/01/21 17:08	CH	XEN MID

**Client Sample ID: SW07** Lab Sample ID: 890-1497-4

Date Collected: 10/27/21 08:38 Date Received: 10/28/21 14:48

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11021	11/01/21 08:33	KL	XEN MID
Total/NA	Analysis	8021B		1	11022	11/01/21 17:33	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11149	11/01/21 14:19	AJ	XEN MID

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Matrix: Solid

#### Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1497-1 Project/Site: PLU 78B SDG: 31403236.020.0129

**Client Sample ID: SW07** 

Lab Sample ID: 890-1497-4

Matrix: Solid

Date Collected: 10/27/21 08:38 Date Received: 10/28/21 14:48

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	11118	11/01/21 12:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11018	11/01/21 08:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11030	11/01/21 18:44	AJ	XEN MID
Soluble	Leach	DI Leach			11106	11/01/21 11:53	SC	XEN MID
Soluble	Analysis	300.0		1	11131	11/01/21 17:14	CH	XEN MID

Client Sample ID: SW09 Lab Sample ID: 890-1497-5

Date Collected: 10/27/21 13:25 **Matrix: Solid** 

Date Received: 10/28/21 14:48

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11021	11/01/21 08:33	KL	XEN MID
Total/NA	Analysis	8021B		1	11022	11/01/21 17:53	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11149	11/01/21 14:19	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11118	11/01/21 12:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11018	11/01/21 08:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11030	11/01/21 19:06	AJ	XEN MID
Soluble	Leach	DI Leach			11106	11/01/21 11:53	SC	XEN MID
Soluble	Analysis	300.0		1	11131	11/02/21 12:50	CH	XEN MID

**Client Sample ID: SW11** Lab Sample ID: 890-1497-6

Date Collected: 10/27/21 10:21 Date Received: 10/28/21 14:48

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11021	11/01/21 08:33	KL	XEN MID
Total/NA	Analysis	8021B		1	11022	11/01/21 18:14	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11149	11/01/21 14:19	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11118	11/01/21 12:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11018	11/01/21 08:28	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11030	11/01/21 19:27	AJ	XEN MID
Soluble	Leach	DI Leach			11106	11/01/21 11:53	SC	XEN MID
Soluble	Analysis	300.0		1	11131	11/01/21 17:26	CH	XEN MID

**Laboratory References:** 

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

Eurofins Xenco, Carlsbad

**Matrix: Solid** 

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

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

#### **Laboratory: Eurofins Xenco, Midland**

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

Authority Texas		ogram	Identification Number	Expiration Date 06-30-22	
		ELAP	T104704400-21-22		
The following analytes	are included in this report bu	t the laboratory is not certifi	ed by the governing authority. This list ma	y include analytes for y	
the agency does not of	• •	t the laboratory to not contin	ed by the governing additionty. This list the	ly include analytes for v	
the agency does not of Analysis Method	• •	Matrix	Analyte	y include analytes for v	
9 ,	fer certification.	•	, , ,		

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#### **Method Summary**

Job ID: 890-1497-1 Client: WSP USA Inc. Project/Site: PLU 78B SDG: 31403236.020.0129

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

#### **Protocol References:**

ASTM = ASTM International

Released to Imaging: 8/22/2022 2:38:20 PM

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

#### **Sample Summary**

 Client: WSP USA Inc.
 Job ID: 890-1497-1

 Project/Site: PLU 78B
 SDG: 31403236.020.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1497-1	SW01	Solid	10/27/21 14:04	10/28/21 14:48	0 - 4
890-1497-2	SW02	Solid	10/27/21 14:06	10/28/21 14:48	0 - 4
890-1497-3	SW06	Solid	10/27/21 14:42	10/28/21 14:48	0 - 4
890-1497-4	SW07	Solid	10/27/21 08:38	10/28/21 14:48	0 - 4
890-1497-5	SW09	Solid	10/27/21 13:25	10/28/21 14:48	0 - 4
890-1497-6	SW11	Solid	10/27/21 10:21	10/28/21 14:48	0 - 4

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# Project Manager: Kalei Jennings MZCO SORATORIES

Hobbs,NM (575-392-

Bill to: (if different)

Adrian Baker

Company Name:

Xto Energy

Program: UST/PST

□RP □rownfields □RC **Work Order Comments** 

¶perfund

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Houston,

Company Name:

WSP USA

City, State ZIP:

Midland, Texas 79705

3300 North A Street Bldg 1, Unit 222

Project Name: Project Number

PLU 78B

31403236.020.0129

Routine / Turn Around 817-683-2503

Email: Tacoma.Morrissey@wsp.com, Travis.Casey@wsp.com

**ANALYSIS REQUEST** 

Incident ID NAPP2126639352 Work Order Notes Deliverables: EDD

Reporting:Level II evel III State of Project:

LSn/1 **ADaPT** 

THP LIVELIV

City, State ZIP:

Carlsbad, NM 88220

3104 E Green Street

www.xenco.com	575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
	Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
	Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Work Order No:	Chain of Custody

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			4	2	21+1 12 07 . O			Con Con		HUMMA
Date/Time	Received by: (Signature)	Relinquished by: (Signature)		Date/Time	Date		Received by: (Signature	Received b	re)	Relinquished by: (Signature)
	negotiated.	or service. Aenico will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the cheric resum inserse are to cherically negotiated.  These terms will be enforced unless previously negotiated.	or analyzed.	nco, but n	nitted to Xe	each sample subn	charge of \$5 for	s and shall not as each project and a	o will be applied to	. Xenco will de liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the chief, is our losses an Aminimum 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 en
	is and conditions	es and subcontractors. It assigns standard terms and conditions	o, its affiliate	to Xenco	nt company	ase order from clie	tes a valid purch	samples constitu	d relinquishment of	Notice: Signature of this document and retinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors.
1631 / 245.1 / 7470 / 7471 : Hg		Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	Be Cd (	Sb As Ba		TCLP / SPLP 6010: 8RCRA	TCLP / SPLF		etal(s) to be an	Circle Method(s) and Metal(s) to be analyzed
Sr TI Sn U V Zn	K Se Ag SiO2	Ca Cr Co Cu Fe	Be B Cd	As Ba	Al Sb /	13PPM Texas 11	8RCRA 13PPI	8A	200.8 / 6020:	Total 200.7 / 6010 20
			-		-					
Composite			×	×	×	0-4	10:21	10/27/2021	S	SW11
Composite			×	×	×	0-4	13:25	10/27/2021	S	SW09
Composite			×	×	×	0-4	8:38	10/27/2021	S	SW07
Composite			×	×	×	0-4	14:42 C	10/27/2021	S	SW06
Composite			×	×	×	0-4	14:06 C	10/27/2021	S	SW02
Composite			×	×	×	0-4	14:04 C	10/27/2021	S	SW01
Sample Comments			Chlorid	втех (	Numb	Depth	Time Sampled	Date Sampled	Matrix	Sample Identification
lab, if received by 4:30pm			le (El	EPA			Total Containers:	Total	es No N/A	Sample Custody Seals: Yes
TAT starts the day recevied by the			PA 3	0=80		2.0	Correction Factor:	Corre	Yes No (N/A)	Cooler Custody Seals: Y
		890-1497 Chain of Custody	00.0	021)	ntai		FOO-WIN	الح	(Yes) No	Received Intact:
			)		ners		Thermometer ID	11	4/2.2	Temperature (°C): 2.
						Ves No	Wet Ice:	(es) No	Temp Blank:	SAMPLE RECEIPT
API: 30-015-27536						ate:	Due Date:		asey	Sampler's Name: Travis Casey
Cost Center: 1080781001						Rush: 48 He	Rush:			P.O. Number:

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

# **Chain of Custody Record**

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🐝 eurofins

Environment Testing America

	Sampler:			MG 46 I		l	l				1	1	1		l		ļ		
Client Information (Sub Contract Lab)	Compre			Kramer Jessica	r Jess	Ca					Š	Carner Tracking No(s)	acking	) No(s			<b>œ</b> C	890-488 1	
Client Contact: Shipping/Receiving	Phone:			E-Mail jessica kramer@eurofinset.com	krame	ar@eu	rofins	et cor	3		z s	State of Origin New Mexico	)rigin				D 0	Page:	
Company Eurofins Xenco				Z À	Accreditations Required (See note) NELAP - Louisiana, NELAP	ions Re Louis	quired siana,	See no	,	Texas						ı	∞ ⊆	Job#: 890-1497-1	
Address 1211 W Florida Ave	Due Date Requested 11/2/2021	۵						₽	- 1	vsis R	Requested	este	٦					Preservation Codes	òdes
City Midland	TAT Requested (days)	ys)			<del>atellilaria</del> Santitudi		-						$\neg$					NaOH	M Hexane N None O AsNAO?
State Zip: TX 79701				.,	Line	TPH				*********							пυ		P Na2O4S Q Na2SO3
Phone: 432-704-5440(TeI)	# OP			N	g Geberrektler	D) Full	le	*****		,							sandler C O T		
Email	#O#			er No	o)	p (MOI	hlorid	EX									Local Street Control	ice DI Water	U Acetone V MCAA
Project Name	Project#			Yes	or N	_Prep	CH C	) BT									ners		
CFC / 8B	89000004			le (	/es	/I_S	LEA	MOD								42-1-3-1	ntai		Z otner (specify)
Site	SSOW#			Samo	ISD (Y	015NN	ID/DI_L	Calc (N	:v	-						2 100000	Joseph Services	Other	
			Sample I	Matrix ed (w=water	m MS/N	DD_NM/8 DD_Calc	RGFM_28	5036FP_0	STEX_GO	^							lumber		
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) BT=1	₹.	Perf			8021	Total							**************************************	Total	Special	Special Instructions/Note:
		L	Preservation Code:	i Code: 🕽 🗙	$\otimes$							4,00		in the state of		in a	X		
SW01 (890-1497-1)	10/27/21	Mountain		Solid		×	×	×	×								The state of		
SW02 (890-1497-2)	10/27/21	14 06 Mountain		Solid		×	×	×	×								4		
SW06 (890-1497-3)	10/27/21	14 42 Mountain		Solid		×	×	×	×								4 <del>4.</del> 4		
SW07 (890-1497-4)	10/27/21	08 38 Mountain		Solid		×	×	×	×			$\dashv$					*1		
SW09 (890-1497-5)	10/27/21	13 25 Mountain		Solid		×	×	×	×	_				$\neg$			*		
SW11 (890-1497-6)	10/27/21	10 21 Mountain		Solid		×	×	×	×								<i>19</i>		
											-	-							
Note Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently anintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC.	aces the ownership or analyzed the sar signed Chain of Cus	of method analy mples must be s	te & accreditation hipped back to the said complicance	n compliance in the Eurofins Xere to Eurofins	upon out	subcor C labora	ntract la	borator other in	ries. Ti	nis san	nple sh	ipmen	Any o	warder	under sto as	chain	of-cus	stody If the labor latus should be b	ratory does not currently rought to Eurofins Xenco LLC
Possible Hazard Identification Unconfirmed					Sam	Sample Disposal ( A fee	le Disposal (Af Return To Client	Clien	fee n	may be	e ass	<b>assessed if san</b> Disposal By Lab	ByL	amp	es a	e ret	rchiv	assessed if samples are retained longer than  Disposal By Lab  Archive For	1 month) Months
Deliverable Requested I II III IV Other (specify)	Primary Deliverable Rank	ible Rank 2			Spec	Special Instructions/QC Requirements	tructio	ns/Q	C Rec	uiren	nents					İ			
Empty Kit Relinquished by		Date		T	Time		Militaria.	ì				<u>M</u>	Method of Shipment:	f Ship	nent:				
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Relinquished by	Date/Time		Con	Company	7	Resaired by:	by.							Date	Date/Time	İ			Company
Custody Seals Intact: Custody Seal No  A Yes A No					0	Cooler Temperature(s) °C	empera	ture(s)		and Other Remarks	Rema	03	2	76	01	$ \gamma $	1		Ver 06/08/2021
																			A CT \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-1497-1

SDG Number: 31403236.020.0129

List Source: Eurofins Xenco, Carlsbad

Login Number: 1497 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 Aerico, Carisbau

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# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-1497-1

SDG Number: 31403236.020.0129

List Source: Eurofins Xenco, Midland

List Creation: 11/01/21 08:46 AM

List Number: 2 Creator: Kramer, Jessica

Login Number: 1497

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6/2.7
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	N/A	

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<6mm (1/4").

# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1498-1

Laboratory Sample Delivery Group: 3140326.020.0129

Client Project/Site: PLU 78B

For:

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

Attn: Kalei Jennings

MRAMER

Authorized for release by: 11/1/2021 4:07:18 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

LINKS .....

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Released to Imaging: 8/22/2022 2:38:20 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.

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Client: WSP USA Inc.

Project/Site: PLU 78B

Laboratory Job ID: 890-1498-1 SDG: 3140326.020.0129

# **Table of Contents**

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# **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-1498-1 Project/Site: PLU 78B SDG: 3140326.020.0129

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** S1+ Surrogate recovery exceeds control limits, high biased.

U Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

F1 MS and/or MSD recovery exceeds control limits.

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

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: 890-1498-1

 Project/Site: PLU 78B
 SDG: 3140326.020.0129

Job ID: 890-1498-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-1498-1

#### Receipt

The samples were received on 10/29/2021 10:16 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C

#### **GC VOA**

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

#### GC Semi VOA

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-11038 and analytical batch 880-11110 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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Lab Sample ID: 890-1498-1

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1498-1 Project/Site: PLU 78B SDG: 3140326.020.0129

**Client Sample ID: SW03** 

Date Collected: 10/27/21 08:32 Date Received: 10/29/21 10:16

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 12:45	1
Toluene	< 0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 12:45	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 12:45	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/01/21 08:33	11/01/21 12:45	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 12:45	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/01/21 08:33	11/01/21 12:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130			11/01/21 08:33	11/01/21 12:45	1
1,4-Difluorobenzene (Surr)	105		70 - 130			11/01/21 08:33	11/01/21 12:45	1
Method: Total BTEX - Total BTE	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/01/21 14:01	1
Analyte	Result	Qualifier	RL	Unit	D			
			• • • •	Ollit	ט	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/01/21 12:47	
- -								
Method: 8015B NM - Diesel Ran	ge Organics (D	RO) (GC)	49.9	mg/Kg	=	<u> </u>	11/01/21 12:47	1
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics	ge Organics (D	RO) (GC) Qualifier			<u>D</u>	Prepared 11/01/21 08:22		1 Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics	ge Organics (Di	RO) (GC) Qualifier U F1	49.9	mg/Kg	=	Prepared	11/01/21 12:47  Analyzed	Dil Fac
Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	ge Organics (D Result <49.9	RO) (GC) Qualifier U F1	49.9 RL 49.9	mg/Kg  Unit  mg/Kg	=	Prepared 11/01/21 08:22	11/01/21 12:47  Analyzed  11/01/21 12:30	Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10	ge Organics (D Result <49.9	RO) (GC) Qualifier U F1	49.9 RL 49.9	mg/Kg  Unit  mg/Kg	=	Prepared 11/01/21 08:22	11/01/21 12:47  Analyzed  11/01/21 12:30	Dil Fac
Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	ge Organics (Di Result <49.9	RO) (GC) Qualifier U F1 U	49.9  RL 49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 11/01/21 08:22 11/01/21 08:22	Analyzed 11/01/21 12:30 11/01/21 12:30	Dil Fac
Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	ge Organics (D) Result <49.9 <49.9	RO) (GC) Qualifier U F1 U	49.9  RL 49.9  49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 11/01/21 08:22 11/01/21 08:22 11/01/21 08:22	Analyzed 11/01/21 12:30 11/01/21 12:30 11/01/21 12:30	Dil Face 1 1 1 Dil Face
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	ge Organics (D)  Result  <49.9  <49.9  <49.9  %Recovery	RO) (GC) Qualifier U F1 U	49.9  RL 49.9  49.9  49.9  Limits	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 11/01/21 08:22 11/01/21 08:22 11/01/21 08:22 Prepared	Analyzed 11/01/21 12:47  Analyzed 11/01/21 12:30 11/01/21 12:30 Analyzed	Dil Fac
Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	ge Organics (D)  Result  <49.9  <49.9  <49.9  **Recovery**  80  93	RO) (GC) Qualifier U F1 U Qualifier	49.9  RL 49.9  49.9  49.9  Limits 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 11/01/21 08:22 11/01/21 08:22 11/01/21 08:22 Prepared 11/01/21 08:22	Analyzed 11/01/21 12:30 11/01/21 12:30 11/01/21 12:30 Analyzed 11/01/21 12:30	Dil Fac
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	ge Organics (D)  Result  <49.9  <49.9  <49.9  **Recovery  80  93  omatography -	RO) (GC) Qualifier U F1 U Qualifier	49.9  RL 49.9  49.9  49.9  Limits 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg	=	Prepared 11/01/21 08:22 11/01/21 08:22 11/01/21 08:22 Prepared 11/01/21 08:22	Analyzed 11/01/21 12:30 11/01/21 12:30 11/01/21 12:30 Analyzed 11/01/21 12:30	Dil Fac  1  Dil Fac  1  Dil Fac  1  Dil Fac  1  Dil Fac

Client Sample ID: SW04

Date Collected: 10/27/21 08:34 Date Received: 10/29/21 10:16

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 13:06	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 13:06	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 13:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/01/21 08:33	11/01/21 13:06	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 13:06	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/01/21 08:33	11/01/21 13:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130			11/01/21 08:33	11/01/21 13:06	

Eurofins Xenco, Carlsbad

Lab Sample ID: 890-1498-2

Matrix: Solid

Lab Sample ID: 890-1498-2

11/01/21 08:22

11/01/21 08:22 11/01/21 13:30

11/01/21 13:30

Lab Sample ID: 890-1498-3

**Matrix: Solid** 

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1498-1 Project/Site: PLU 78B SDG: 3140326.020.0129

Client Sample ID: SW04

Date Collected: 10/27/21 08:34 Date Received: 10/29/21 10:16

Sample Depth: 0 - 4

Method: 8021B - Volatile O	rganic Compou	nds (GC)	(Continued)
Michiga: OUL 1B Volume C	i gaino compou	1145 (55)	(Goillinaca)

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	103	70 - 130	11/01/21 08:33	11/01/21 13:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398		0.00398	mg/Kg			11/01/21 14:01	1

н				
П	Method: 8015 NM - Diesel	Dange Organica		
П	- Metriou, ou la Min - Diesei	Range Organics	יו נטאטו	961

Analyte		Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH		<49.9	U	49.9	mg/Kg			11/01/21 12:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		11/01/21 08:22	11/01/21 13:30	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		11/01/21 08:22	11/01/21 13:30	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/01/21 08:22	11/01/21 13:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

1-Chlorooctane	96	70 - 130
o-Terphenyl	109	70 - 130

Method: 300.0 - Anions, Ion Chro	omatography - Soluble						
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

raidiyio	rtoouit	Quannon		O.m.	_	rioparoa	raidiyeda	D uo
Chloride	5900		49.5	mg/Kg			11/01/21 13:14	10

**Client Sample ID: SW05** 

Date Collected: 10/27/21 08:35 Date Received: 10/29/21 10:16

Sample Depth: 0 - 4

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

michiod. 002 ID - Volatile Orga	inc compounds	(30)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 13:26	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 13:26	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 13:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/01/21 08:33	11/01/21 13:26	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/01/21 08:33	11/01/21 13:26	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/01/21 08:33	11/01/21 13:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130			11/01/21 08:33	11/01/21 13:26	1
1,4-Difluorobenzene (Surr)	95		70 - 130			11/01/21 08:33	11/01/21 13:26	1

Mothod:	Total RT	EY - Tota	I DTEY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00398	U	0.00398	ma/Ka			11/01/21 14:01	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC	Method: 8015 NM -	- Diesel Range	Organics (	DRO)	(GC
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Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			11/01/21 12:47	1

Lab Sample ID: 890-1498-3

# **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1498-1

 Project/Site: PLU 78B
 SDG: 3140326.020.0129

**Client Sample ID: SW05** 

Date Collected: 10/27/21 08:35 Date Received: 10/29/21 10:16

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		11/01/21 08:22	11/01/21 13:50	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		11/01/21 08:22	11/01/21 13:50	1
C10-C28)								
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/01/21 08:22	11/01/21 13:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130			11/01/21 08:22	11/01/21 13:50	1
o-Terphenyl	99		70 - 130			11/01/21 08:22	11/01/21 13:50	1

Method: 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	7210		50.4	mg/Kg			11/01/21 13:20	10		

3

6

7

0

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13

# **Surrogate Summary**

 Client: WSP USA Inc.
 Job ID: 890-1498-1

 Project/Site: PLU 78B
 SDG: 3140326.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1498-1	SW03	119	105	
890-1498-1 MS	SW03	117	99	
890-1498-1 MSD	SW03	119	103	
890-1498-2	SW04	133 S1+	103	
890-1498-3	SW05	125	95	
LCS 880-11021/1-A	Lab Control Sample	121	103	
LCSD 880-11021/2-A	Lab Control Sample Dup	110	100	
MB 880-11021/5-A	Method Blank	106	101	

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 Re
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1498-1	SW03	80	93	
890-1498-1 MS	SW03	95	93	
890-1498-1 MSD	SW03	93	92	
890-1498-2	SW04	96	109	
890-1498-3	SW05	90	99	
LCS 880-11017/2-A	Lab Control Sample	86	88	
LCSD 880-11017/3-A	Lab Control Sample Dup	104	108	
MB 880-11017/1-A	Method Blank	98	112	

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

# **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1498-1 Project/Site: PLU 78B SDG: 3140326.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-11021/5-A

**Matrix: Solid** Analysis Batch: 11022 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 11021

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/01/21 08:33	11/01/21 12:08	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/01/21 08:33	11/01/21 12:08	1

MB MB

MD MD

Surrogate	%Recovery	Qualifier	Limits	P	repared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	11/0	1/21 08:33	11/01/21 12:08	1
1,4-Difluorobenzene (Surr)	101		70 - 130	11/0	1/21 08:33	11/01/21 12:08	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 11021

Lab Sample ID: LCS 880-11021/1-A Matrix: Solid

**Analysis Batch: 11022** 

Spike	LCS	LCS				%Rec.	
Added	Result	Qualifier	Unit	D	%Rec	Limits	
0.100	0.08284		mg/Kg		83	70 - 130	
0.100	0.08405		mg/Kg		84	70 - 130	
0.100	0.08962		mg/Kg		90	70 - 130	
0.200	0.1923		mg/Kg		96	70 - 130	
0.100	0.09704		mg/Kg		97	70 - 130	
	Added 0.100 0.100 0.100 0.200	Added         Result           0.100         0.08284           0.100         0.08405           0.100         0.08962           0.200         0.1923	Added         Result         Qualifier           0.100         0.08284         0.100           0.100         0.08405         0.100           0.100         0.08962         0.200           0.200         0.1923	Added         Result         Qualifier         Unit           0.100         0.08284         mg/Kg           0.100         0.08405         mg/Kg           0.100         0.08962         mg/Kg           0.200         0.1923         mg/Kg	Added         Result         Qualifier         Unit         D           0.100         0.08284         mg/Kg           0.100         0.08405         mg/Kg           0.100         0.08962         mg/Kg           0.200         0.1923         mg/Kg	Added         Result         Qualifier         Unit         D         %Rec           0.100         0.08284         mg/Kg         83           0.100         0.08405         mg/Kg         84           0.100         0.08962         mg/Kg         90           0.200         0.1923         mg/Kg         96	Added         Result         Qualifier         Unit         D         %Rec         Limits           0.100         0.08284         mg/Kg         83         70 - 130           0.100         0.08405         mg/Kg         84         70 - 130           0.100         0.08962         mg/Kg         90         70 - 130           0.200         0.1923         mg/Kg         96         70 - 130

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	121	70 - 130
1,4-Difluorobenzene (Surr)	103	70 - 130

Lab Sample ID: LCSD 880-11021/2-A **Client Sample ID: Lab Control Sample Dup** 

Matrix: Solid

Analysis Batch: 11022

					Prep Batch: 11021				
LCSD	LCSD				%Rec.		RPD		
Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit		
0.07647		mg/Kg		76	70 - 130	8	35		

Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.07647		mg/Kg		76	70 - 130	8	35
Toluene	0.100	0.07398		mg/Kg		74	70 - 130	13	35
Ethylbenzene	0.100	0.07944		mg/Kg		79	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.1712		mg/Kg		86	70 - 130	12	35
o-Xylene	0.100	0.08722		mg/Kg		87	70 - 130	11	35

Spike

LCSD LCSD

Surrogate	%Recovery Qua	alifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1.4-Difluorobenzene (Surr)	100		70 <sub>-</sub> 130

Lab Sample ID: 890-1498-1 MSD

Matrix: Solid

**Analysis Batch: 11022** 

Client Sample ID: SW03 Prep Type: Total/NA Prep Batch: 11021

•	Sample	Sample	Spike	MSD	MSD				%Rec.	•	RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	<0.00199	U	0.0998	0.07206		mg/Kg						
Toluene	< 0.00199	U	0.0998	0.07077		mg/Kg						

Job ID: 890-1498-1 Client: WSP USA Inc. Project/Site: PLU 78B SDG: 3140326.020.0129

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

Lab Sample ID: 890-1498-1 MSD Client Sample ID: SW03 **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 11022** Prep Batch: 11021 RPD Sample Sample Spike MSD MSD %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Ethylbenzene <0.00199 U 0.0998 0.07668 mg/Kg m-Xylene & p-Xylene <0.00398 U 0.200 0.1630 mg/Kg 0.0998 o-Xylene <0.00199 U 0.08213 mg/Kg

MSD MSD Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 119 70 - 130 1,4-Difluorobenzene (Surr) 103

Lab Sample ID: 890-1498-1 MS

**Matrix: Solid** 

**Analysis Batch: 11022** 

	MS MS	
Surrogate	%Recovery Qualifi	er Limits
4-Bromofluorobenzene (Surr)	117	70 - 130
1,4-Difluorobenzene (Surr)	99	70 - 130

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

Lab Sample ID: MB 880-11017/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 11034 Prep Batch: 11017

	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		11/01/21 08:22	11/01/21 11:29	1
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		11/01/21 08:22	11/01/21 11:29	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/01/21 08:22	11/01/21 11:29	1
	Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Analyte Result Gasoline Range Organics <50.0 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 C10-C28)	Gasoline Range Organics <50.0 U (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U C10-C28)	Analyte         Result         Qualifier         RL           Gasoline Range Organics         <50.0         U         50.0           (GRO)-C6-C10         U         50.0           Diesel Range Organics (Over C10-C28)         <50.0         U         50.0	Analyte         Result         Qualifier         RL         Unit           Gasoline Range Organics         <50.0         U         50.0         mg/Kg           (GRO)-C6-C10         Oiesel Range Organics (Over C10-C28)         <50.0         U         50.0         mg/Kg	Analyte         Result         Qualifier         RL         Unit         D           Gasoline Range Organics         <50.0         U         50.0         mg/Kg           (GRO)-C6-C10         Diesel Range Organics (Over C10-C28)         <50.0         U         50.0         mg/Kg	Analyte         Result         Qualifier         RL         Unit         D         Prepared           Gasoline Range Organics         <50.0         U         50.0         mg/Kg         11/01/21 08:22           (GRO)-C6-C10         Diesel Range Organics (Over         <50.0         U         50.0         mg/Kg         11/01/21 08:22           C10-C28)         C10-C28	Analyte         Result         Qualifier         RL         Unit         D         Prepared         Analyzed           Gasoline Range Organics         <50.0         U         50.0         mg/Kg         11/01/21 08:22         11/01/21 11:29           (GRO)-C6-C10         Diesel Range Organics (Over (Over C10-C28)         <50.0         U         50.0         mg/Kg         11/01/21 08:22         11/01/21 11:29

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	11/01/21 08:22	11/01/21 11:29	1
o-Terphenyl	112		70 - 130	11/01/21 08:22	11/01/21 11:29	1

**Client Sample ID: Lab Control Sample** Lab Sample ID: LCS 880-11017/2-A **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 11034 Prep Batch: 11017

•	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	1010		mg/Kg		101	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	737.8		mg/Kg		74	70 - 130

Diesel Range Organics (Over	1000	737.8	mg/Kg	74	70
C10-C28)					
LC	LCS				

MB MB

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	88		70 - 130

Eurofins Xenco, Carlsbad

Client Sample ID: SW03

Prep Type: Total/NA

### QC Sample Results

Client: WSP USA Inc. Job ID: 890-1498-1 Project/Site: PLU 78B SDG: 3140326.020.0129

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

LCSD LCSD

Lab Sample ID: LCSD 880-11017/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** Analysis Batch: 11034 Prep Type: Total/NA Prep Batch: 11017

Spike LCSD LCSD RPD RPD Limit Analyte Added Result Qualifier Unit %Rec Limits D Gasoline Range Organics 1000 1140 mg/Kg 114 70 - 130 12 20 (GRO)-C6-C10 1000 877.8 88 70 - 130Diesel Range Organics (Over mg/Kg 17

C10-C28)

20

%Recovery Qualifier Limits Surrogate 1-Chlorooctane 70 - 130 104 o-Terphenyl 108 70 - 130

Lab Sample ID: 890-1498-1 MS Client Sample ID: SW03 Matrix: Solid

**Analysis Batch: 11034** 

Prep Type: Total/NA

Prep Batch: 11017

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits 997 Gasoline Range Organics <49.9 UF1 1296 mg/Kg 130 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 997 894.2 mg/Kg 87 70 - 130 C10-C28)

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 95 70 - 130 o-Terphenyl 93 70 - 130

Lab Sample ID: 890-1498-1 MSD Client Sample ID: SW03

**Matrix: Solid** 

Prep Type: Total/NA Prep Batch: 11017

Analysis Batch: 11034

Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit <49.9 U F1 1000 1510 F1 151 Gasoline Range Organics 70 - 130 15 20 mg/Kg (GRO)-C6-C10 1000 891.0 86 Diesel Range Organics (Over <49.9 U mg/Kg 70 - 130 O 20 C10-C28)

Qualifier Limits Surrogate %Recovery 1-Chlorooctane 93 70 - 130 92 70 - 130 o-Terphenyl

MSD MSD

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-11038/1-A Client Sample ID: Method Blank

**Matrix: Solid** 

MB MB

**Prep Type: Soluble** 

**Analysis Batch: 11110** 

Analyte Result Qualifier RL Unit Analyzed Dil Fac D Prepared Chloride <5.00 U 5.00 11/01/21 12:38 mg/Kg

# QC Sample Results

Client: WSP USA Inc. Job ID: 890-1498-1 Project/Site: PLU 78B SDG: 3140326.020.0129

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-11038/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 11110** 

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Chloride 250 240.3 mg/Kg 96 90 - 110

Lab Sample ID: LCSD 880-11038/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 11110** 

Spike LCSD LCSD %Rec. RPD Added Result Qualifier Limit Analyte Unit D %Rec Limits RPD Chloride 250 236.8 mg/Kg 95 90 - 110

Lab Sample ID: 890-1498-1 MS Client Sample ID: SW03 **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 11110** 

MS MS %Rec. Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 5970 F1 2500 8764 F1 112 90 - 110 mg/Kg

Lab Sample ID: 890-1498-1 MSD Client Sample ID: SW03 **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 11110** 

Spike MSD MSD %Rec. RPD Sample Sample Analyte Result Qualifier Added Qualifier Unit %Rec RPD Limit Result Limits Chloride 5970 2500 8663 F1 108 90 - 110 20 mg/Kg

# **QC Association Summary**

 Client: WSP USA Inc.
 Job ID: 890-1498-1

 Project/Site: PLU 78B
 SDG: 3140326.020.0129

**GC VOA** 

Prep Batch: 11021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1498-1	SW03	Total/NA	Solid	5035	
890-1498-2	SW04	Total/NA	Solid	5035	
890-1498-3	SW05	Total/NA	Solid	5035	
MB 880-11021/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-11021/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-11021/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1498-1 MSD	SW03	Total/NA	Solid	5035	

**Analysis Batch: 11022** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1498-1	SW03	Total/NA	Solid	8021B	11021
890-1498-2	SW04	Total/NA	Solid	8021B	11021
890-1498-3	SW05	Total/NA	Solid	8021B	11021
MB 880-11021/5-A	Method Blank	Total/NA	Solid	8021B	11021
LCS 880-11021/1-A	Lab Control Sample	Total/NA	Solid	8021B	11021
LCSD 880-11021/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	11021
890-1498-1 MS	SW03	Total/NA	Solid	8021B	
890-1498-1 MSD	SW03	Total/NA	Solid	8021B	11021

Analysis Batch: 11149

<b>Lab Sample ID</b> 890-1498-1	Client Sample ID SW03	Prep Type Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
890-1498-2	SW04	Total/NA	Solid	Total BTEX	
890-1498-3	SW05	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Prep Batch: 11017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1498-1	SW03	Total/NA	Solid	8015NM Prep	
890-1498-2	SW04	Total/NA	Solid	8015NM Prep	
890-1498-3	SW05	Total/NA	Solid	8015NM Prep	
MB 880-11017/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-11017/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-11017/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1498-1 MS	SW03	Total/NA	Solid	8015NM Prep	
890-1498-1 MSD	SW03	Total/NA	Solid	8015NM Prep	

Analysis Batch: 11034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1498-1	SW03	Total/NA	Solid	8015B NM	11017
890-1498-2	SW04	Total/NA	Solid	8015B NM	11017
890-1498-3	SW05	Total/NA	Solid	8015B NM	11017
MB 880-11017/1-A	Method Blank	Total/NA	Solid	8015B NM	11017
LCS 880-11017/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	11017
LCSD 880-11017/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	11017
890-1498-1 MS	SW03	Total/NA	Solid	8015B NM	11017
890-1498-1 MSD	SW03	Total/NA	Solid	8015B NM	11017

# **QC Association Summary**

 Client: WSP USA Inc.
 Job ID: 890-1498-1

 Project/Site: PLU 78B
 SDG: 3140326.020.0129

#### GC Semi VOA

#### **Analysis Batch: 11118**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1498-1	SW03	Total/NA	Solid	8015 NM	
890-1498-2	SW04	Total/NA	Solid	8015 NM	
890-1498-3	SW05	Total/NA	Solid	8015 NM	

#### **HPLC/IC**

#### Leach Batch: 11038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1498-1	SW03	Soluble	Solid	DI Leach	
890-1498-2	SW04	Soluble	Solid	DI Leach	
890-1498-3	SW05	Soluble	Solid	DI Leach	
MB 880-11038/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-11038/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-11038/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1498-1 MS	SW03	Soluble	Solid	DI Leach	
890-1498-1 MSD	SW03	Soluble	Solid	DI Leach	

#### **Analysis Batch: 11110**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1498-1	SW03	Soluble	Solid	300.0	11038
890-1498-2	SW04	Soluble	Solid	300.0	11038
890-1498-3	SW05	Soluble	Solid	300.0	11038
MB 880-11038/1-A	Method Blank	Soluble	Solid	300.0	11038
LCS 880-11038/2-A	Lab Control Sample	Soluble	Solid	300.0	11038
LCSD 880-11038/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	11038
890-1498-1 MS	SW03	Soluble	Solid	300.0	11038
890-1498-1 MSD	SW03	Soluble	Solid	300.0	11038

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#### Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1498-1 Project/Site: PLU 78B SDG: 3140326.020.0129

**Client Sample ID: SW03** 

Lab Sample ID: 890-1498-1

**Matrix: Solid** 

Date Collected: 10/27/21 08:32 Date Received: 10/29/21 10:16

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11021	11/01/21 08:33	KL	XEN MID
Total/NA	Analysis	8021B		1	11022	11/01/21 12:45	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11149	11/01/21 14:01	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11118	11/01/21 12:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11017	11/01/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11034	11/01/21 12:30	AJ	XEN MID
Soluble	Leach	DI Leach			11038	11/01/21 09:55	СН	XEN MID
Soluble	Analysis	300.0		10	11110	11/01/21 12:56	CH	XEN MID

Lab Sample ID: 890-1498-2 Client Sample ID: SW04

**Matrix: Solid** 

Date Collected: 10/27/21 08:34 Date Received: 10/29/21 10:16

Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst Lab 5035 XEN MID Total/NA Prep 11021 11/01/21 08:33 KL 8021B Total/NA 11/01/21 13:06 XEN MID Analysis 1 11022 KL Total/NA Total BTEX 11/01/21 14:01 XEN MID Analysis 1 11149 A.I XEN MID Total/NA Analysis 8015 NM 11118 11/01/21 12:47 Total/NA 8015NM Prep 11017 11/01/21 08:22 XEN MID Prep DM Total/NA Analysis 8015B NM 11034 11/01/21 13:30 AJ XEN MID Soluble XEN MID Leach DI Leach 11038 11/01/21 09:55 CH Soluble Analysis 300.0 10 11110 11/01/21 13:14 СН XEN MID

Lab Sample ID: 890-1498-3 Client Sample ID: SW05 Date Collected: 10/27/21 08:35 **Matrix: Solid** 

Date Received: 10/29/21 10:16

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11021	11/01/21 08:33	KL	XEN MID
Total/NA	Analysis	8021B		1	11022	11/01/21 13:26	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11149	11/01/21 14:01	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11118	11/01/21 12:47	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11017	11/01/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11034	11/01/21 13:50	AJ	XEN MID
Soluble	Leach	DI Leach			11038	11/01/21 09:55	CH	XEN MID
Soluble	Analysis	300.0		10	11110	11/01/21 13:20	CH	XEN MID

**Laboratory References:** 

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

# **Accreditation/Certification Summary**

Client: WSP USA Inc. Job ID: 890-1498-1 Project/Site: PLU 78B SDG: 3140326.020.0129

#### **Laboratory: Eurofins Xenco, Midland**

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

Authority	Р	rogram	Identification Number	Expiration Date
Texas	N	IELAP	T104704400-21-22	06-30-22
The following analytes the agency does not of		out the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for which
Analysis Method	Prep Method	Matrix	Analyte	
8015 NM		Solid	Total TPH	
Total BTEX		Solid	Total BTEX	

# **Method Summary**

 Client: WSP USA Inc.
 Job ID: 890-1498-1

 Project/Site: PLU 78B
 SDG: 3140326.020.0129

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

Eurofins Xenco, Carlsbad

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# **Sample Summary**

 Client: WSP USA Inc.
 Job ID: 890-1498-1

 Project/Site: PLU 78B
 SDG: 3140326.020.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depti
890-1498-1	SW03	Solid	10/27/21 08:32	10/29/21 10:16	0 - 4
890-1498-2	SW04	Solid	10/27/21 08:34	10/29/21 10:16	0 - 4
890-1498-3	SW05	Solid	10/27/21 08:35	10/29/21 10:16	0 - 4

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	Work (	<b>Work Order Comments</b>	nents		
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State of Project: NM	Z M				
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Project Manager: Tacoma Morrissey Bill to: (# differen) Kyle Littrell  Company Name: WSP USA Inc., Permian office Company Name: XTO Energy  Address: 3300 North A St. Bldg 1, Unit 222 Address: 3104 E Greene St.  City State ZIP: Michaed TX 79705  City State ZIP: Carlsbad, NM  Reporting: Level II
Tacoma Morrissey  Bill to: (if different)  WSP USA Inc., Permian office  Company Name:  XTO Energy  Address:  3104 E Greene St.  Www.Astrocycom/  Kyle Littrell  Work Order Comments  Work Order Comments  Frogram: UST/PST PRP Brownfields RC  State of Project: NM
Tacoma Morrissey  Bill to: (if different)  WSP USA Inc., Permian office  Company Name: XTO Energy  Attanta,GA (7/0-449-8800), Tampa,FL (8/3-8-20-2000)  Kyle Littrell  Work Order Comments  Atto Energy  Tacoma Morrissey  Program: UST/PST PRP Brownfields RC
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# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-1498-1 SDG Number: 3140326.020.0129

List Source: Eurofins Xenco, Carlsbad

Login Number: 1498 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	N/A	

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<6mm (1/4").

# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-1498-1

SDG Number: 3140326.020.0129

List Source: Eurofins Xenco, Midland

List Creation: 11/01/21 08:46 AM

List Number: 2 Creator: Kramer, Jessica

Login Number: 1498

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6/2.7
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	N/A	

<6mm (1/4").

# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1526-1

Laboratory Sample Delivery Group: 31403236.20.0129

Client Project/Site: PLU 78 B

For:

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

Attn: Tacoma Morrissey

MRAMER

Authorized for release by: 11/9/2021 1:57:32 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

Review your project

results through
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Released to Imaging: 8/22/2022 2:38:20 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.

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Client: WSP USA Inc.

Project/Site: PLU 78 B

Laboratory Job ID: 890-1526-1 SDG: 31403236.20.0129

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# **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-1526-1 Project/Site: PLU 78 B SDG: 31403236.20.0129

#### **Qualifiers**

#### **GC VOA**

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

#### **GC Semi VOA**

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

#### HPLC/IC

U

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

Indicates the analyte was analyzed for but not detected.

# **Glossary**

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

Decision Level Concentration (Radiochemistry) Estimated Detection Limit (Dioxin)

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)

Method Detection Limit MDL 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)

RLReporting 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: 890-1526-1 Project/Site: PLU 78 B SDG: 31403236.20.0129

Job ID: 890-1526-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-1526-1

#### Receipt

The samples were received on 11/3/2021 4:54 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

#### **GC VOA**

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

#### GC Semi VOA

Method 8015MOD\_NM: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 880-11444 and analytical batch 880-11509 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Diesel Range Organics (Over C10-C28) and OII Range Organics (Over C28-C36) in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

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.

Lab Sample ID: 890-1526-1

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1526-1 Project/Site: PLU 78 B SDG: 31403236.20.0129

**Client Sample ID: SW10** 

Date Collected: 10/27/21 10:20 Date Received: 11/03/21 16:54

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 14:08	
Toluene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 14:08	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 14:08	
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/05/21 09:00	11/05/21 14:08	
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 14:08	
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/05/21 09:00	11/05/21 14:08	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	121		70 - 130			11/05/21 09:00	11/05/21 14:08	
1,4-Difluorobenzene (Surr)	98		70 - 130			11/05/21 09:00	11/05/21 14:08	
Method: Total BTEX - Total BTEX	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/05/21 13:34	
Analyte Total TPH	<49.9	Qualifier U	<b>RL</b> 49.9	Unit mg/Kg	D	Prepared	Analyzed 11/05/21 13:50	Dil Fa
Iotal IPH - -	<49.9	U	49.9	mg/Kg			11/05/21 13:50	
Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/04/21 10:41	11/05/21 14:11	
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/04/21 10:41	11/05/21 14:11	
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/04/21 10:41	11/05/21 14:11	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane			70 - 130			11/04/21 10:41	11/05/21 14:11	
o-Terphenyl	135	S1+	70 - 130			11/04/21 10:41	11/05/21 14:11	
·		Calubia						
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Method: 300.0 - Anions, Ion Chro Analyte	0 . ,	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa

**Client Sample ID: SW12** 

Date Collected: 10/27/21 10:23 Date Received: 11/03/21 16:54

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/05/21 09:00	11/05/21 14:29	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/05/21 09:00	11/05/21 14:29	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/05/21 09:00	11/05/21 14:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/05/21 09:00	11/05/21 14:29	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/05/21 09:00	11/05/21 14:29	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/05/21 09:00	11/05/21 14:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			11/05/21 09:00	11/05/21 14:29	

Eurofins Xenco, Carlsbad

Lab Sample ID: 890-1526-2

**Matrix: Solid** 

Lab Sample ID: 890-1526-2

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1526-1 Project/Site: PLU 78 B SDG: 31403236.20.0129

**Client Sample ID: SW12** 

Date Collected: 10/27/21 10:23 Date Received: 11/03/21 16:54

Sample Depth: 0 - 4

Method: 8021B - Volatile O	rganic Compou	nds (GC)	(Continued)
Michiga: OUL 1B Volume C	i gaino compou	1145 (55)	(Goillinaca)

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	98	70 - 130	11/05/21 09:00	11/05/21 14:29	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			11/05/21 13:34	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			11/05/21 13:50	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/04/21 10:41	11/05/21 14:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/04/21 10:41	11/05/21 14:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/04/21 10:41	11/05/21 14:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzea	DII Fac
1-Chlorooctane	120	70 - 130	11/04/21 10:41	11/05/21 14:33	1
o-Terphenyl	135 S1+	70 - 130	11/04/21 10:41	11/05/21 14:33	1

# Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3810	25.0	mg/Kg			11/09/21 04:34	5

**Client Sample ID: SW13** Lab Sample ID: 890-1526-3 **Matrix: Solid** 

Date Collected: 10/27/21 10:28 Date Received: 11/03/21 16:54

Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/05/21 09:00	11/05/21 14:49	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/05/21 09:00	11/05/21 14:49	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		11/05/21 09:00	11/05/21 14:49	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		11/05/21 09:00	11/05/21 14:49	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/05/21 09:00	11/05/21 14:49	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		11/05/21 09:00	11/05/21 14:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			11/05/21 09:00	11/05/21 14:49	1
1,4-Difluorobenzene (Surr)	96		70 - 130			11/05/21 09:00	11/05/21 14:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			11/05/21 13:34	1

Method. 0013 MM - Dieser Kange Organics (DRO) (GC)	Method: 8015 NM - Die	esel Range C	Organics (	DRO)	(GC)
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Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	229	50.0	mg/Kg			11/05/21 13:50	1

Lab Sample ID: 890-1526-3

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1526-1 Project/Site: PLU 78 B SDG: 31403236.20.0129

**Client Sample ID: SW13** 

Date Collected: 10/27/21 10:28 Date Received: 11/03/21 16:54

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		11/04/21 10:41	11/05/21 14:54	1
(GRO)-C6-C10								
Diesel Range Organics (Over	229		50.0	mg/Kg		11/04/21 10:41	11/05/21 14:54	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/04/21 10:41	11/05/21 14:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	126		70 - 130			11/04/21 10:41	11/05/21 14:54	1
o-Terphenyl	144	S1+	70 - 130			11/04/21 10:41	11/05/21 14:54	1
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
			99.6	mg/Kg			11/09/21 04:41	20

Lab Sample ID: 890-1526-4 **Client Sample ID: SW14** Date Collected: 10/28/21 10:29 Matrix: Solid

Date Received: 11/03/21 16:54

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/05/21 09:00	11/05/21 15:10	1
Toluene	< 0.00199	U	0.00199	mg/Kg		11/05/21 09:00	11/05/21 15:10	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		11/05/21 09:00	11/05/21 15:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/05/21 09:00	11/05/21 15:10	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		11/05/21 09:00	11/05/21 15:10	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/05/21 09:00	11/05/21 15:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	142	S1+	70 - 130			11/05/21 09:00	11/05/21 15:10	1
1,4-Difluorobenzene (Surr)	80		70 - 130			11/05/21 09:00	11/05/21 15:10	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			11/05/21 13:34	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	61.9		49.8	mg/Kg			11/05/21 13:50	1
Method: 8015B NM - Diesel Rang	je Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/04/21 10:41	11/05/21 15:17	1
Diesel Range Organics (Over C10-C28)	61.9		49.8	mg/Kg		11/04/21 10:41	11/05/21 15:17	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/04/21 10:41	11/05/21 15:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	122		70 - 130			11/04/21 10:41	11/05/21 15:17	1
o-Terphenyl	400	S1+	70 - 130			11/04/21 10:41	11/05/21 15:17	1

Lab Sample ID: 890-1526-4

# **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

Client Sample ID: SW14

Date Collected: 10/28/21 10:29 Date Received: 11/03/21 16:54

Sample Depth: 0 - 4

Method: 300.0 - Anions, Ion Chromatography - Soluble											
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac			
Chloride	6550		49.5	mg/Kg			11/09/21 04:49	10			

Client Sample ID: SW15

Date Collected: 10/29/21 10:29

Lab Sample ID: 890-1526-5

Matrix: Solid

Date Collected: 10/29/21 10:29 Date Received: 11/03/21 16:54

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/05/21 09:00	11/05/21 15:30	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/05/21 09:00	11/05/21 15:30	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		11/05/21 09:00	11/05/21 15:30	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		11/05/21 09:00	11/05/21 15:30	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/05/21 09:00	11/05/21 15:30	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		11/05/21 09:00	11/05/21 15:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130			11/05/21 09:00	11/05/21 15:30	1
1,4-Difluorobenzene (Surr)	105		70 - 130			11/05/21 09:00	11/05/21 15:30	1
· Method: Total BTEX - Total BTE)	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			11/05/21 13:34	1
Method: 8015 NM - Diesel Range	Organics (DR)	O) (GC)						
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	75.6		50.0	mg/Kg			11/05/21 13:50	1
Method: 8015B NM - Diesel Rang	ge Organics (Di	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		11/04/21 10:41	11/05/21 15:39	1
Diesel Range Organics (Over C10-C28)	75.6		50.0	mg/Kg		11/04/21 10:41	11/05/21 15:39	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/04/21 10:41	11/05/21 15:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane			70 - 130			11/04/21 10:41	11/05/21 15:39	1
o-Terphenyl	128		70 - 130			11/04/21 10:41	11/05/21 15:39	1
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10700		99.0	mg/Kg			11/09/21 04:57	20

Lab Sample ID: 890-1526-6

# **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

Client Sample ID: SW16

Date Collected: 10/30/21 10:30 Date Received: 11/03/21 16:54

Sample Depth: 0 - 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 15:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 15:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 15:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/05/21 09:00	11/05/21 15:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 15:51	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/05/21 09:00	11/05/21 15:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130			11/05/21 09:00	11/05/21 15:51	1
1,4-Difluorobenzene (Surr)	102		70 - 130			11/05/21 09:00	11/05/21 15:51	1
Method: Total BTEX - Total BTE	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			11/05/21 13:34	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	74.3		49.8	mg/Kg			11/05/21 13:50	1
Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/04/21 10:41	11/05/21 16:01	1
Diesel Range Organics (Over C10-C28)	74.3		49.8	mg/Kg		11/04/21 10:41	11/05/21 16:01	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/04/21 10:41	11/05/21 16:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130			11/04/21 10:41	11/05/21 16:01	1
o-Terphenyl	89		70 - 130			11/04/21 10:41	11/05/21 16:01	1
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Method: 300.0 - Anions, Ion Chro Analyte	• • •	Soluble Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac

# **Surrogate Summary**

 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
90-1526-1	SW10	121	98	
90-1526-2	SW12	127	98	
90-1526-3	SW13	117	96	
90-1526-4	SW14	142 S1+	80	
90-1526-5	SW15	126	105	
90-1526-6	SW16	124	102	
90-1537-A-1-B MS	Matrix Spike	111	103	
90-1537-A-1-C MSD	Matrix Spike Duplicate	119	102	
CS 880-11475/1-A	Lab Control Sample	107	106	
CSD 880-11475/2-A	Lab Control Sample Dup	103	106	
1B 880-11475/5-A	Method Blank	110	94	
Surrogate Legend				

DFBZ = 1,4-Difluorobenzene (Surr)

OTPH = o-Terphenyl

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)	
880-7973-A-1-B MS	Matrix Spike	101	84	
880-7973-A-1-C MSD	Matrix Spike Duplicate	101	90	
890-1526-1	SW10	118	135 S1+	
890-1526-2	SW12	120	135 S1+	
890-1526-3	SW13	126	144 S1+	
890-1526-4	SW14	122	136 S1+	
890-1526-5	SW15	111	128	
890-1526-6	SW16	79	89	
LCS 880-11444/2-A	Lab Control Sample	102	112	
LCSD 880-11444/3-A	Lab Control Sample Dup	97	108	
	Method Blank	109	129	

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3

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14

Euromis Acrico, Carisba

# **QC Sample Results**

Client: WSP USA Inc. Job ID: 890-1526-1 Project/Site: PLU 78 B SDG: 31403236.20.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-11475/5-A

**Matrix: Solid** Analysis Batch: 11515 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 11475

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 12:28	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 12:28	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 12:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/05/21 09:00	11/05/21 12:28	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/05/21 09:00	11/05/21 12:28	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/05/21 09:00	11/05/21 12:28	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Pr	repared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	11/05	5/21 09:00	11/05/21 12:28	1
1.4-Difluorobenzene (Surr)	94		70 - 130	11/05	5/21 09:00	11/05/21 12:28	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 11475

Prep Type: Total/NA

Prep Batch: 11475

35

35

Lab Sample ID: LCS 880-11475/1-A **Matrix: Solid** 

Analysis Batch: 11515

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08097		mg/Kg		81	70 - 130	
Toluene	0.100	0.07362		mg/Kg		74	70 - 130	
Ethylbenzene	0.100	0.07723		mg/Kg		77	70 - 130	
m-Xylene & p-Xylene	0.200	0.1612		mg/Kg		81	70 - 130	
o-Xylene	0.100	0.08159		mg/Kg		82	70 - 130	

LCS LCS

Surrogate	%Recovery Q	ualifier	Limits		
4-Bromofluorobenzene (Surr)	107		70 - 130		
1,4-Difluorobenzene (Surr)	106		70 - 130		

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

70 - 130

70 - 130

**Matrix: Solid** 

m-Xylene & p-Xylene

Analyte Benzene Toluene Ethylbenzene

Analysis Batch: 11515

Lab Sample ID: LCSD 880-11475/2-A

Spike	LCSD	LCSD				%Rec.		RPD	
Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
0.100	0.08404		mg/Kg		84	70 - 130	4	35	
0.100	0.07617		mg/Kg		76	70 - 130	3	35	
0.100	0.07848		mg/Kg		78	70 <sub>-</sub> 130	2	35	

mg/Kg

mg/Kg

o-Xylene

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

**Matrix: Solid** 

Analysis Batch: 11515

Lab Sample ID: 890-1537-A-1-B MS Client Sample ID: Matrix Spike Prep Type: Total/NA

0.1634

0.08158

Prep Batch: 11475

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U	0.0998	0.09141		mg/Kg		91	70 - 130	
Toluene	< 0.00199	U	0.0998	0.08545		mg/Kg		85	70 - 130	

0.200

0.100

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Client: WSP USA Inc. Job ID: 890-1526-1 Project/Site: PLU 78 B SDG: 31403236.20.0129

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

Lab Sample ID: 890-1537-A-1-B MS

**Matrix: Solid** 

**Analysis Batch: 11515** 

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 11475

	Sample	Sample	<b>эріке</b>	INIO	IVIO				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00199	U	0.0998	0.08783		mg/Kg		88	70 - 130	
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1844		mg/Kg		92	70 - 130	
o-Xylene	<0.00199	U	0.0998	0.09241		mg/Kg		92	70 - 130	

MS MS

Surrogate	%Recovery Qualifie	er Limits
4-Bromofluorobenzene (Surr)	111	70 - 130
1,4-Difluorobenzene (Surr)	103	70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 11475

**Analysis Batch: 11515** 

**Matrix: Solid** 

Lab Sample ID: 890-1537-A-1-C MSD

Sample Sample Spike MSD MSD %Rec. Result Qualifier Added Result Qualifier Limits RPD Limit Analyte Unit %Rec 0.0996 Benzene <0.00199 U 0.08206 mg/Kg 82 70 - 130 11 35 Toluene <0.00199 U 0.07797 78 0.0996 mg/Kg 70 - 130 35 Ethylbenzene <0.00199 U 0.0996 0.08478 mg/Kg 85 70 - 130 35 4 <0.00398 U 0.199 0.1813 70 - 130 35 m-Xylene & p-Xylene mg/Kg 2 <0.00199 U 0.0996 0.09187 92 70 - 130 o-Xylene mg/Kg

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

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

Lab Sample ID: MB 880-11444/1-A

**Matrix: Solid** 

**Analysis Batch: 11509** 

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 11444

	MR	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/04/21 10:41	11/05/21 11:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/04/21 10:41	11/05/21 11:16	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/04/21 10:41	11/05/21 11:16	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	11/04/21 10:41	11/05/21 11:16	1
o-Terphenyl	129		70 - 130	11/04/21 10:41	11/05/21 11:16	1

Lab Sample ID: LCS 880-11444/2-A

**Matrix: Solid** 

**Analysis Batch: 11509** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 11444

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1120		mg/Kg		112	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	1093		mg/Kg		109	70 - 130	
C10-C28)								

Client: WSP USA Inc. Job ID: 890-1526-1 Project/Site: PLU 78 B SDG: 31403236.20.0129

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

LCS LCS

%Recovery Qualifier

102

112

Lab Sample ID: LCS 880-11444/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** 

**Analysis Batch: 11509** 

Prep Type: Total/NA

Prep Batch: 11444

Lab Sample ID: LCSD 880-11444/3-A Client Sample ID: Lab Control Sample Dup

Limits

70 - 130

70 - 130

**Matrix: Solid** 

Surrogate

o-Terphenyl

1-Chlorooctane

Analysis Batch: 11509

Prep Type: Total/NA

Prep Batch: 11444

Spike LCSD LCSD %Rec. RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1000 1145 114 70 - 1302 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 1000 Diesel Range Organics (Over 1146 mg/Kg 115 70 - 13020 5 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 97 70 - 130 1-Chlorooctane 108 70 - 130 o-Terphenyl

Lab Sample ID: 880-7973-A-1-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 11509** 

Prep Type: Total/NA

Prep Batch: 11444

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier hahhA Result Qualifier Unit %Rec Limits D Gasoline Range Organics <249 U F1 F2 997 1598 F1 mg/Kg 160 70 - 130 (GRO)-C6-C10

MS MS Qualifier %Recovery I imits Surrogate 1-Chlorooctane 101 70 - 130 o-Terphenyl 84 70 - 130

Lab Sample ID: 880-7973-A-1-C MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

**Analysis Batch: 11509** 

Prep Type: Total/NA

Prep Batch: 11444

Sample Sample Spike MSD MSD %Rec. RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics <249 U F1 F2 1000 1220 F2 mg/Kg 122 70 - 13027 20

(GRO)-C6-C10

MSD MSD

Qualifier Limits Surrogate %Recovery 1-Chlorooctane 101 70 - 130 o-Terphenyl 90 70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-11667/1-A Client Sample ID: Method Blank

Matrix: Solid

**Analysis Batch: 11702** 

MB MB Result Qualifier RLUnit D Dil Fac Analyte Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 11/09/21 03:48

Eurofins Xenco, Carlsbad

**Prep Type: Soluble** 

 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 880-11667/2-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Soluble

**Analysis Batch: 11702** 

 Analyte
 LCS LCS
 %Rec.

 Chloride
 250
 256.9
 mg/Kg
 103
 90 - 110

Lab Sample ID: LCSD 880-11667/3-A

Client Sample ID: Lab Control Sample Dup
Matrix: Solid

Prep Type: Soluble

Analysis Batch: 11702

Spike LCSD LCSD %Rec. RPD Added Result Qualifier Unit Limit Analyte D %Rec Limits RPD Chloride 250 259.3 mg/Kg 104

Lab Sample ID: 890-1526-1 MS

Matrix: Solid

Client Sample ID: SW10

Prep Type: Soluble

Analysis Batch: 11702

MS MS %Rec. Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 6410 F1 2530 9341 F1 90 - 110 mg/Kg 116

Lab Sample ID: 890-1526-1 MSD

Matrix: Solid

**Analysis Batch: 11702** 

Spike MSD MSD RPD Sample Sample %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec RPD Limit Limits Chloride 6410 F1 2530 9322 F1 115 90 - 110 20 mg/Kg

Eurofins Xenco, Carlsbad

**Client Sample ID: SW10** 

**Prep Type: Soluble** 

#### **QC Association Summary**

 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

#### **GC VOA**

#### Prep Batch: 11475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1526-1	SW10	Total/NA	Solid	5035	
890-1526-2	SW12	Total/NA	Solid	5035	
890-1526-3	SW13	Total/NA	Solid	5035	
890-1526-4	SW14	Total/NA	Solid	5035	
890-1526-5	SW15	Total/NA	Solid	5035	
890-1526-6	SW16	Total/NA	Solid	5035	
MB 880-11475/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-11475/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-11475/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1537-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-1537-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 11515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1526-1	SW10	Total/NA	Solid	8021B	11475
890-1526-2	SW12	Total/NA	Solid	8021B	11475
890-1526-3	SW13	Total/NA	Solid	8021B	11475
890-1526-4	SW14	Total/NA	Solid	8021B	11475
890-1526-5	SW15	Total/NA	Solid	8021B	11475
890-1526-6	SW16	Total/NA	Solid	8021B	11475
MB 880-11475/5-A	Method Blank	Total/NA	Solid	8021B	11475
LCS 880-11475/1-A	Lab Control Sample	Total/NA	Solid	8021B	11475
LCSD 880-11475/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	11475
890-1537-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	11475
890-1537-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	11475

#### **Analysis Batch: 11588**

Γ					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1526-1	SW10	Total/NA	Solid	Total BTEX	
890-1526-2	SW12	Total/NA	Solid	Total BTEX	
890-1526-3	SW13	Total/NA	Solid	Total BTEX	
890-1526-4	SW14	Total/NA	Solid	Total BTEX	
890-1526-5	SW15	Total/NA	Solid	Total BTEX	
890-1526-6	SW16	Total/NA	Solid	Total BTEX	

#### GC Semi VOA

#### Prep Batch: 11444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1526-1	SW10	Total/NA	Solid	8015NM Prep	
890-1526-2	SW12	Total/NA	Solid	8015NM Prep	
890-1526-3	SW13	Total/NA	Solid	8015NM Prep	
890-1526-4	SW14	Total/NA	Solid	8015NM Prep	
890-1526-5	SW15	Total/NA	Solid	8015NM Prep	
890-1526-6	SW16	Total/NA	Solid	8015NM Prep	
MB 880-11444/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-11444/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-11444/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-7973-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-7973-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

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#### **QC Association Summary**

 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

#### GC Semi VOA

#### Analysis Batch: 11509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1526-1	SW10	Total/NA	Solid	8015B NM	11444
890-1526-2	SW12	Total/NA	Solid	8015B NM	11444
890-1526-3	SW13	Total/NA	Solid	8015B NM	11444
890-1526-4	SW14	Total/NA	Solid	8015B NM	11444
890-1526-5	SW15	Total/NA	Solid	8015B NM	11444
890-1526-6	SW16	Total/NA	Solid	8015B NM	11444
MB 880-11444/1-A	Method Blank	Total/NA	Solid	8015B NM	11444
LCS 880-11444/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	11444
LCSD 880-11444/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	11444
880-7973-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	11444
880-7973-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	11444

#### Analysis Batch: 11598

Client Sample ID	Prep Type	Matrix	Method	Prep Batch
SW10	Total/NA	Solid	8015 NM	
SW12	Total/NA	Solid	8015 NM	
SW13	Total/NA	Solid	8015 NM	
SW14	Total/NA	Solid	8015 NM	
SW15	Total/NA	Solid	8015 NM	
SW16	Total/NA	Solid	8015 NM	
-	SW10 SW12 SW13 SW14 SW15	SW10         Total/NA           SW12         Total/NA           SW13         Total/NA           SW14         Total/NA           SW15         Total/NA	SW10         Total/NA         Solid           SW12         Total/NA         Solid           SW13         Total/NA         Solid           SW14         Total/NA         Solid           SW15         Total/NA         Solid	SW10         Total/NA         Solid         8015 NM           SW12         Total/NA         Solid         8015 NM           SW13         Total/NA         Solid         8015 NM           SW14         Total/NA         Solid         8015 NM           SW15         Total/NA         Solid         8015 NM

#### **HPLC/IC**

#### Leach Batch: 11667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1526-1	SW10	Soluble	Solid	DI Leach	
890-1526-2	SW12	Soluble	Solid	DI Leach	
890-1526-3	SW13	Soluble	Solid	DI Leach	
890-1526-4	SW14	Soluble	Solid	DI Leach	
890-1526-5	SW15	Soluble	Solid	DI Leach	
890-1526-6	SW16	Soluble	Solid	DI Leach	
MB 880-11667/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-11667/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-11667/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1526-1 MS	SW10	Soluble	Solid	DI Leach	
890-1526-1 MSD	SW10	Soluble	Solid	DI Leach	

#### Analysis Batch: 11702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1526-1	SW10	Soluble	Solid	300.0	11667
890-1526-2	SW12	Soluble	Solid	300.0	11667
890-1526-3	SW13	Soluble	Solid	300.0	11667
890-1526-4	SW14	Soluble	Solid	300.0	11667
890-1526-5	SW15	Soluble	Solid	300.0	11667
890-1526-6	SW16	Soluble	Solid	300.0	11667
MB 880-11667/1-A	Method Blank	Soluble	Solid	300.0	11667
LCS 880-11667/2-A	Lab Control Sample	Soluble	Solid	300.0	11667
LCSD 880-11667/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	11667
890-1526-1 MS	SW10	Soluble	Solid	300.0	11667
890-1526-1 MSD	SW10	Soluble	Solid	300.0	11667

Eurofins Xenco, Carlsbad

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 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

Client Sample ID: SW10

Lab Sample ID: 890-1526-1

. Matrix: Solid

Date Collected: 10/27/21 10:20 Date Received: 11/03/21 16:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11475	11/05/21 09:00	MR	XEN MID
Total/NA	Analysis	8021B		1	11515	11/05/21 14:08	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11588	11/05/21 13:34	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11598	11/05/21 13:50	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11444	11/04/21 10:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11509	11/05/21 14:11	AJ	XEN MID
Soluble	Leach	DI Leach			11667	11/08/21 11:05	CH	XEN MID
Soluble	Analysis	300.0		10	11702	11/09/21 04:11	CH	XEN MID

Client Sample ID: SW12 Lab Sample ID: 890-1526-2

Date Collected: 10/27/21 10:23 Matrix: Solid

Date Received: 11/03/21 16:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11475	11/05/21 09:00	MR	XEN MID
Total/NA	Analysis	8021B		1	11515	11/05/21 14:29	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11588	11/05/21 13:34	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11598	11/05/21 13:50	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11444	11/04/21 10:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11509	11/05/21 14:33	AJ	XEN MID
Soluble	Leach	DI Leach			11667	11/08/21 11:05	СН	XEN MID
Soluble	Analysis	300.0		5	11702	11/09/21 04:34	CH	XEN MID

Client Sample ID: SW13

Date Collected: 10/27/21 10:28

Lab Sample ID: 890-1526-3

Matrix: Solid

Date Received: 11/03/21 16:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11475	11/05/21 09:00	MR	XEN MID
Total/NA	Analysis	8021B		1	11515	11/05/21 14:49	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11588	11/05/21 13:34	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11598	11/05/21 13:50	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11444	11/04/21 10:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11509	11/05/21 14:54	AJ	XEN MID
Soluble	Leach	DI Leach			11667	11/08/21 11:05	CH	XEN MID
Soluble	Analysis	300.0		20	11702	11/09/21 04:41	CH	XEN MID

Client Sample ID: SW14 Lab Sample ID: 890-1526-4

Date Collected: 10/28/21 10:29 Date Received: 11/03/21 16:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11475	11/05/21 09:00	MR	XEN MID
Total/NA	Analysis	8021B		1	11515	11/05/21 15:10	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11588	11/05/21 13:34	AJ	XEN MID

Eurofins Xenco, Carlsbad

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**Matrix: Solid** 

#### **Lab Chronicle**

 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

Client Sample ID: SW14

Lab Sample ID: 890-1526-4

Matrix: Solid

Date Collected: 10/28/21 10:29 Date Received: 11/03/21 16:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	11598	11/05/21 13:50	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11444	11/04/21 10:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11509	11/05/21 15:17	AJ	XEN MID
Soluble	Leach	DI Leach			11667	11/08/21 11:05	CH	XEN MID
Soluble	Analysis	300.0		10	11702	11/09/21 04:49	СН	XEN MID

Client Sample ID: SW15 Lab Sample ID: 890-1526-5

Date Collected: 10/29/21 10:29

Matrix: Solid

Date Received: 11/03/21 16:54

Batch Batch Dilution Batch Prepared Prep Type Method Run Number or Analyzed Type Factor Analyst Lab 5035 XEN MID Total/NA Prep 11475 11/05/21 09:00 MR Total/NA Analysis 8021B 11515 11/05/21 15:30 KL XEN MID 1 Total/NA Total BTEX XEN MID Analysis 1 11588 11/05/21 13:34 AJ Total/NA Analysis 8015 NM 11/05/21 13:50 XEN MID 1 11598 AJXEN MID Total/NA Prep 8015NM Prep 11444 11/04/21 10:41 DM XEN MID Total/NA Analysis 8015B NM 11509 11/05/21 15:39 1 AJSoluble Leach DI Leach 11667 11/08/21 11:05 СН XEN MID 11/09/21 04:57 XEN MID Soluble Analysis 300.0 20 11702 СН

Client Sample ID: SW16 Lab Sample ID: 890-1526-6

Date Collected: 10/30/21 10:30 Matrix: Solid
Date Received: 11/03/21 16:54

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11475	11/05/21 09:00	MR	XEN MID
Total/NA	Analysis	8021B		1	11515	11/05/21 15:51	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	11588	11/05/21 13:34	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	11598	11/05/21 13:50	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11444	11/04/21 10:41	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11509	11/05/21 16:01	AJ	XEN MID
Soluble	Leach	DI Leach			11667	11/08/21 11:05	CH	XEN MID
Soluble	Analysis	300.0		10	11702	11/09/21 05:20	CH	XEN MID

#### Laboratory References:

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

Eurofins Xenco, Carlsbad

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

 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

#### **Laboratory: Eurofins Xenco, Midland**

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

Authority	Pre	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	ELAP	T104704400-21-22	06-30-22
The following analytes	are included in this report bu	t the laboratory is not certifi	ed by the governing authority. This list ma	v include analytes for v
the agency does not of	' '	t the laboratory to not contin	ed by the governing additionty. This list the	ly include analytes for v
the agency does not of Analysis Method	' '	Matrix	Analyte	y include analytes for v
9 ,	fer certification.	•	, , ,	

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#### **Method Summary**

 Client: WSP USA Inc.
 Job ID: 890-1526-1

 Project/Site: PLU 78 B
 SDG: 31403236.20.0129

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

Eurofins Xenco, Carlsbad

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#### **Sample Summary**

Client: WSP USA Inc.
Project/Site: PLU 78 B

Job ID: 890-1526-1 SDG: 31403236.20.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1526-1	SW10	Solid	10/27/21 10:20	11/03/21 16:54	0 - 4
890-1526-2	SW12	Solid	10/27/21 10:23	11/03/21 16:54	0 - 4
890-1526-3	SW13	Solid	10/27/21 10:28	11/03/21 16:54	0 - 4
890-1526-4	SW14	Solid	10/28/21 10:29	11/03/21 16:54	0 - 4
890-1526-5	SW15	Solid	10/29/21 10:29	11/03/21 16:54	0 - 4
890-1526-6	SW16	Solid	10/30/21 10:30	11/03/21 16:54	0 - 4

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## Chain of Custody

)					2	a n	ᄋᆠ	Chain of Custody	Work Order No:	Order	No:	
X T T			Houston,T)	X (281) 240-420	Dalla	s,TX (2)	4) 902-	Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334				
LABCRAT	YORKS	Hobbs	Midland,T	X (432-704-544 550) Phoenix.Az	0) ELF	³aso,TX 55-090	(915)5: 0) Atlar	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) Allanta GA (770-449-8800) Tampa,FL (813-620-2000)		www.xenco.com	<u>ım</u> Page.	of
Project Manager: Tacom	Tacoma Morrissey		m	Bill to: (if different)	<u> </u>	Kyle Littrell	rell			k Orde	Work Order Comments	v)
	WSP USA Inc., Permian office	ın office	0	Company Name		XTO Energy	ergy		Program: UST/PST PRP	_	⊒₃rownfields ☐RC	℃
	3300 North A St. Bldg 1, Unit 222	1, Unit 222	,	Address:	ω	3104 E Greene	Greens	St.	State of Project: NM			]
te ZIP:	Midland, TX 79705		0	City, State ZIP:		Carlsbad, NM	g. NM		Reporting:Level II evel III		□ST/UST □RP	₹P □vel IV □
	(432) 704-5178		Email: t	Email: travis.casey@wsp.com,	wsp.c	öm, k	alei.jei	kalei.jennings@wsp.com, dan.moir@w	Deliverables: EDD	ADa	ADaPT   (	Other:
Project Name: PLU 78 B	8 B		Turi	Turn Around				ANALYSIS REQUEST	EST		Woi	Work Order Notes
er:	31403236.020.0129		Routine	е							IN:NAPP	IN:NAPP2126639352
P.O. Number:			Rush: 24hr.	24hr.							CC:1080781001	781001
Sampler's Name: Travis Casey	Casey		Due Date	ate:							API:30-0	API:30-015-27536
SAMPLE RECEIPT	Temp Blank:	: (teg) No	Wet Ice:	Ves No	•							
Temperature (°C):	24/2.2	Th	Thermometer ID		iners				WINNIN WIN WIN			
_	. 18	)   		,	onta	5)	21)	890-1526 Chain of Current				
Sample Custody Seals:	Yes No WIA	Total	Total Containers:		of C	801	A 8	(EP <i>I</i>			lab, if	lab, if received by 4:30pm
Sample Identification	on Matrix	Date Sampled	Time Sampled	Depth	lumbe	PH (EP	STEX (E	Chloride			Sam	Sample Comments
SW10	S	10/27/2021	10:20	0-4	-	×	×	×				Composite
SW12	S	10/27/2021	10:23	0-4	_	×	×	×				Composite
SW13	S	10/27/2021	10:28	0-4	-	×	×	×		<u> </u>		Composite
SW14	S	10/28/2021	10:29	0-4	_	×	×	×				Composite
SW15	S	10/29/2021	10:29	0-4	_	×	×	×				Composite
SW16	S	10/30/2021	10:30	0-4	_	×	×	×				Composite
						$\perp$						
Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	200.8 / 6020:   Metal(s) to be a	<u>۾</u>	8RCRA 13PPM TCLP/SPLP	ICRA 13PPM Texas 11 AI	1	Sb As Sb As	Ba Ba	Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo N Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	Fe Pb Mg Mn Mo Ni K Se Ag n Mo Ni Se Ag Tl U	SiO2	SiO2 Na Sr TI Sn U 1631 / 245.1 / 747	Na Sr Tl Sn U V Zn 1631 / 245.1 / 7470 / 7471 : Hg
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. 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 at 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 en	t and relinquishment or y for the cost of samp 5.00 will be applied to	if samples constitutes and shall not as	tes a valid purch ssume any respo charge of \$5 for	ase order from cl posibility for any lar reach sample sut	ient con osses or omitted	pany to expens o Xenco	Xenco, es incur , but no	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 afforced unless previously negotiated.			
Relinquished by: (Signature)	ature)	Received b	Received by: (Signature)	(a)	[	$1 \rightarrow 1$	me	1 1	ture) Received by: (Signature)	: (Signa	ature)	Date/Time
		ICA ( par	4		10.0	- 1	10.01	7 4				
O (								6		!		

# **Chain of Custody Record**

Eurofins Xenco, Carlsbad  1089 N Canal St. Carlsbad NM 88220 Phone. 575-988-3199 Fax. 575-988-3199  Client Information (Sub Contract Lab) Client Contact Shipping/Receiving Company Eurofins Xenco	Sampler	Chain of Custody Record  Lab PM Kramer Jessics E-Mail jessica kramer@ Accreditation NELAP - L	of Cust	Lab PM Kramer E-Mail jessMail jessMail	Record  Lab PM  Kramer Jessica  Essica Kramer@eurofinset com  Accreditations Required (See note)  NELAP - Louisiana NELAP	Jessica ramer@editations FLAP - Lou	eurofii Require	nset of (See	com P note:		Texas	Z SI C	Carrier Tracking No(s) State of Origin New Mexico	rackir Prigin	0 0 0	(S)				89 P P 8 C	©CC No B90.495 1 Page: Page 1 of 1 Job # B90-1526-1	2 5	Environment Testing America
Address 1211 W Florida Ave,	Due Date Requested 11/5/2021	ā							Analy	lysi	/sis Requested	que	ste	۵						. ঢ়	n Code		
City Midland	TAT Requested (days)	ys)			200					┢╌╏	$\blacksquare$	H	$\blacksquare$	H	H				100	BΝ	HCL NaOH	8	Hexane None
State Zip: TX, 79701						ТРН														יסחד	Nitric Acid NaHSO4	י ש מי	Na2O4S Na2SO3
Phone: 432-704-5440(Tel)	PO#:				<u>)                                    </u>	D) Full													or a decre		MeOH Amchlor Ascorbic Acid	⊣ ω π	12S0
Email	WO#					p (MO													5	<u> </u>	ice Di Water	< ⊂ ·	Acetone MCAA
Project Name: PLU 78 B	Project #: 89000004				000007 110700700	_S_Pre													taine	г х	EDA	ΝŞ	pH 4-5 other (specify)
Site	SSOW#:				V460504-3/201010-1	015NM				· · · · · · · · · · · · · · · · · · ·									of cor	Š	Other:		
		<u></u>	Sample Type	Matrix (w=water S=solld	Filtered	MOD_NM/8	MOD_Calc	ORGFM_28	B/5035FP_0	_BTEX_GC		J							l Number	secontillitate Illinois			
Sample Identification - Client ID (Lab ID)	Sample Date		G=grab) BT=Tissue, A=A	BT=Tissue, A=Air)	CONT. INTO SOLUTION	801	gast .	-	<u>,,,,(,)</u>	100	1		en	+		oju	3		X Tol	7	Special Instructions/Note:	Str	N₽
SW10 (890-1526-1)	10/27/21	10 20	_	Solid	_	×	×	$\stackrel{\times}{+}$	×	×		- 1	-	-	_			Year or	á.				2
SW12 (890-1526-2)	10/27/21	10 23		Solid		×	×	<u> </u>	×	×	$\dashv$	-							41	ostania de la			
SW13 (890-1526-3)	10/27/21	10 28 Mountain		Solid		×	×	×	×	×									<b>A</b>			ĺ	
SW14 (890-1526-4)	10/28/21	10 29 Mountain		Solid		×	×	×	<u>×</u>	×									-			ĺ	
SW15 (890-1526-5)	10/29/21	10 29 Mountain		Solid		×	×	<u>~</u>	×	×									4	namento de la composição			
SW16 (890-1526-6)	10/30/21	10 30 Mountain		Solid		×	×	×	<u>×</u>	×		-							4				
Note Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody if the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC accreditation immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.	places the ownership being analyzed the sa e signed Chain of Cu	of method ana amples must be stody attesting t	lyte & accredita shipped back to said complica	ition compliance to the Eurofins ance to Eurofir	e upon o Xenco L s Xenco	LC lab	contrac	or oth	ratorie er inst	s. Th	s sam 18 will	ple sh be pro	ipmer ovidec	ntis fo	orwai y cha	ded	unde to av	r cha ccred	n-of- itatic	n st	stody If the laborator tatus should be broug	tory d vught	oes r
Possible Hazard Identification Unconfirmed					Sa	Sample Disposal ( A fee	<b>le Disposal ( A f</b> Return To Client	osal To C	(Afe	e m	∏be	ass Dis	<b>assessed if san</b> Disposal Bv Lab	id if	san Lab	nple	s aı	∐ĕ	Arc ai	hiv	may be assessed if samples are retained longer than 1 n  Disposal By Lab  Archive For	month)	<b>nth)</b> Months
Deliverable Requested   II III IV Other (specify)	Primary Deliverable Rank. 2	able Rank. 2			Ş	Special Instructions/QC Requirements	nstru	ction	ÖC OC	Req	iren	ents		k				- 1	- 1	- 1			
Empty Kit Relinquished by		Date			Time		=	*					Z	Method of Shipment:	of S	hipm	ent:						
Relinquished by (ICCL) 11.42	Date/Time		0 0	Company		Receive	od by	7	1	T	Z	0		(		Date/Time	Time	S		الهاي	News 1	S S	Company Company
Relinquished by	Date/Time <sup>-</sup>			Company		Rece	Reseived by									Date/Time.	Time		1			- <u>S</u>	Company
Custody Seals Intact Custody Seal No						Coole	Cooler Temperature(s) °C	peratu	re(s) °		and Other Remarks.	Rema	ri ks	_	ᆛ	51	$\leq$	イ	` II	7		ŀ	1

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

Client: WSP USA Inc.

Job Number: 890-1526-1

SDG Number: 31403236.20.0129

Login Number: 1526 List Source: Eurofins Xenco, 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: 890-1526-1

SDG Number: 31403236.20.0129

List Source: Eurofins Xenco, Midland

List Creation: 11/05/21 01:13 PM

List Number: 2 Creator: Kramer, Jessica

Login Number: 1526

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	4.6/4.7
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	N/A	

Eurofins Xenco, Carlsbad

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<6mm (1/4").

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### **Environment Testing America**

#### **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1555-1

Laboratory Sample Delivery Group: 31403236.020.0129

Client Project/Site: PLU 78

For:

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

Attn: Kalei Jennings

SKRAMER

Authorized for release by: 11/11/2021 7:17:34 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

-----LINKS

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www.eurofinsus.com/Env

Released to Imaging: 8/22/2022 2:38:20 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.

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 Client: WSP USA Inc.
 Laboratory Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

#### **Table of Contents**

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#### **Definitions/Glossary**

 Client: WSP USA Inc.
 Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

Qualifiers

**GC VOA** 

Qualifier Description

U Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier Qualifier Description

U Indicates the analyte was analyzed for but not detected.

**HPLC/IC** 

Qualifier Description

U Indicates the analyte was analyzed for but not detected.

Glossary

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

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

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

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

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

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

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

NC Not Calculated

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

NEG Negative / Absent
POS Positive / Present

PQL Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

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

TNTC Too Numerous To Count

Eurofins Xenco, Carlsbad

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#### **Case Narrative**

Client: WSP USA Inc. Job ID: 890-1555-1 SDG: 31403236.020.0129 Project/Site: PLU 78

Job ID: 890-1555-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-1555-1

#### Receipt

The samples were received on 11/10/2021 11:23 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 9.6°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: 890-1555-1

#### **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

**Client Sample ID: FS11** 

Date Collected: 11/10/21 09:02 Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/21 08:57	11/11/21 12:45	
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/21 08:57	11/11/21 12:45	•
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/21 08:57	11/11/21 12:45	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/11/21 08:57	11/11/21 12:45	
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/21 08:57	11/11/21 12:45	
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/11/21 08:57	11/11/21 12:45	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	125		70 - 130			11/11/21 08:57	11/11/21 12:45	
1,4-Difluorobenzene (Surr)	79		70 - 130			11/11/21 08:57	11/11/21 12:45	
- Method: Total BTEX - Total BTE	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/11/21 14:02	
Analyte Total TPH		Qualifier	RL 50.0	Unit ma/Ka	D	Prepared	Analyzed	Dil Fa
Total TPH			50.0	mg/Kg		Tropurcu		
							11/11/21 15:00	•
							11/11/21 15:00	
Method: 8015B NM - Diesel Ran	ge Organics (D	RO) (GC)					11/11/21 15:00	•
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	
Analyte Gasoline Range Organics	• • •	Qualifier	RL	Unit mg/Kg	<u>D</u>	Prepared 11/11/21 08:21		Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result	Qualifier U			<u>D</u>		Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10	Result   <50.0	Qualifier U	50.0	mg/Kg	<u>D</u>	11/11/21 08:21	Analyzed 11/11/21 11:51	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <50.0	Qualifier U U U	50.0	mg/Kg	<u>D</u>	11/11/21 08:21	Analyzed 11/11/21 11:51 11/11/21 11:51	Dil Fac
Analyte  Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <50.0   <50.0   <50.0	Qualifier U U U	50.0 50.0 50.0	mg/Kg	<u>D</u>	11/11/21 08:21 11/11/21 08:21 11/11/21 08:21	Analyzed 11/11/21 11:51 11/11/21 11:51 11/11/21 11:51	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier U U U	50.0 50.0 50.0 <b>Limits</b>	mg/Kg	<u> </u>	11/11/21 08:21 11/11/21 08:21 11/11/21 08:21 Prepared	Analyzed 11/11/21 11:51 11/11/21 11:51 11/11/21 11:51 Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result	Qualifier  U  U  Qualifier	50.0 50.0 50.0 <b>Limits</b> 70 - 130	mg/Kg	<u>D</u>	11/11/21 08:21 11/11/21 08:21 11/11/21 08:21 Prepared 11/11/21 08:21	Analyzed 11/11/21 11:51 11/11/21 11:51 11/11/21 11:51 Analyzed 11/11/21 11:51	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier  U  U  Qualifier	50.0 50.0 50.0 <b>Limits</b> 70 - 130	mg/Kg	<u>D</u>	11/11/21 08:21 11/11/21 08:21 11/11/21 08:21 Prepared 11/11/21 08:21	Analyzed 11/11/21 11:51 11/11/21 11:51 11/11/21 11:51 Analyzed 11/11/21 11:51	Dil Fac

**Client Sample ID: FS12** 

Date Collected: 11/10/21 09:03

Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/11/21 08:57	11/11/21 13:06	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/11/21 08:57	11/11/21 13:06	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		11/11/21 08:57	11/11/21 13:06	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		11/11/21 08:57	11/11/21 13:06	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/11/21 08:57	11/11/21 13:06	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		11/11/21 08:57	11/11/21 13:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130			11/11/21 08:57	11/11/21 13:06	1

Eurofins Xenco, Carlsbad

Lab Sample ID: 890-1555-2

Matrix: Solid

2

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Matrix: Solid

Lab Sample ID: 890-1555-2

#### **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

**Client Sample ID: FS12** 

Date Collected: 11/10/21 09:03 Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte

Chloride

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	79		70 - 130			11/11/21 08:57	11/11/21 13:06	1
Method: Total BTEX - Total BTEX	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			11/11/21 14:02	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/11/21 15:00	1
_								
Method: 8015B NM - Diesel Rang	ge Organics (DI	RO) (GC)						
		RO) (GC) Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte		Qualifier	RL 49.9		<u>D</u>	Prepared 11/11/21 08:21	Analyzed 11/11/21 12:55	Dil Fac
Analyte Gasoline Range Organics	Result	Qualifier			<u>D</u>	<u>·</u>		Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10	Result	Qualifier U			<u>D</u>	<u>·</u>		Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over		Qualifier U	49.9	mg/Kg	<u>D</u>	11/11/21 08:21	11/11/21 12:55	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)		Qualifier U	49.9	mg/Kg	<u>D</u>	11/11/21 08:21	11/11/21 12:55	1 1 1
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	Result   <49.9   <49.9	Qualifier U U U	49.9	mg/Kg	<u>D</u>	11/11/21 08:21	11/11/21 12:55 11/11/21 12:55	Dil Fac  1  1  Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <49.9 <49.9 <49.9	Qualifier U U U	49.9 49.9 49.9	mg/Kg	<u>D</u>	11/11/21 08:21 11/11/21 08:21 11/11/21 08:21	11/11/21 12:55 11/11/21 12:55 11/11/21 12:55	1 1

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Unit

mg/Kg

D

Prepared

Analyzed

11/11/21 17:04

Dil Fac

Result Qualifier

21300

#### **Surrogate Summary**

 Client: WSP USA Inc.
 Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1555-1	FS11	125	79	
890-1555-1 MS	FS11	117	113	
890-1555-1 MSD	FS11	116	101	
890-1555-2	FS12	78	79	
LCS 880-11996/1-A	Lab Control Sample	109	102	
LCSD 880-11996/2-A	Lab Control Sample Dup	113	102	
MB 880-11996/5-A	Method Blank	128	102	
Surrogate Legend				

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

OTPH = o-Terphenyl

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1001	OTPH1	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
0-1555-1	FS11	109	121	
90-1555-1 MS	FS11	100	99	
390-1555-2	FS12	98	102	
CS 880-11990/2-A	Lab Control Sample	84	93	
CSD 880-11990/3-A	Lab Control Sample Dup	83	86	
MB 880-11990/1-A	Method Blank	106	127	
Surrogate Legend				
1CO = 1-Chlorooctane				

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			
890-1555-1 MSD	FS11			
Surrogate Legend				
1CO = 1-Chlorooctane				
OTPH = o-Ternhenyl				

Eurofins Xenco, Carlsbad

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Client: WSP USA Inc. Job ID: 890-1555-1 SDG: 31403236.020.0129 Project/Site: PLU 78

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-11996/5-A

**Matrix: Solid** 

Analysis Batch: 11997

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 11996

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/21 08:57	11/11/21 12:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/21 08:57	11/11/21 12:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/21 08:57	11/11/21 12:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/11/21 08:57	11/11/21 12:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/21 08:57	11/11/21 12:17	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/11/21 08:57	11/11/21 12:17	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Pr	repared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	11/11	1/21 08:57	11/11/21 12:17	1
1,4-Difluorobenzene (Surr)	102		70 - 130	11/11	1/21 08:57	11/11/21 12:17	1

Lab Sample ID: LCS 880-11996/1-A

**Matrix: Solid** 

Analysis Batch: 11997

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 11996

	<b>Бріке</b>	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08647		mg/Kg		86	70 - 130	
Toluene	0.100	0.09691		mg/Kg		97	70 - 130	
Ethylbenzene	0.100	0.09479		mg/Kg		95	70 - 130	
m-Xylene & p-Xylene	0.200	0.1868		mg/Kg		93	70 - 130	
o-Xylene	0.100	0.09441		mg/Kg		94	70 - 130	

LCS LCS

Surrogate	%Recovery (	Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: LCSD 880-11996/2-A

**Matrix: Solid** 

**Analysis Batch: 11997** 

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

Prep Type: Total/NA

Prep Batch: 11996

	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.09356		mg/Kg		94	70 - 130	8	35	
Toluene	0.100	0.09366		mg/Kg		94	70 - 130	3	35	
Ethylbenzene	0.100	0.09798		mg/Kg		98	70 - 130	3	35	
m-Xylene & p-Xylene	0.200	0.1966		mg/Kg		98	70 - 130	5	35	
o-Xylene	0.100	0.09688		mg/Kg		97	70 - 130	3	35	

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1.4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-1555-1 MSD

Matrix: Solid

Analysis Batch: 11997

Client Sample ID: FS11 Prep Type: Total/NA

Prep Batch: 11996

MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit Limit %Rec Limits **RPD** <0.00200 U 0.0994 0.08915 mg/Kg

Benzene Toluene <0.00200 U 0.0994 0.09820 mg/Kg

Client: WSP USA Inc. Job ID: 890-1555-1 SDG: 31403236.020.0129 Project/Site: PLU 78

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

Lab Sample ID: 890-1555-1 MSD Client Sample ID: FS11 **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 11997 Prep Batch: 11996

Alialysis Datell. 11331									1 10	Dateii.	11330
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ethylbenzene	<0.00200	U	0.0994	0.1013		mg/Kg					
m-Xylene & p-Xylene	<0.00399	U	0.199	0.2015		mg/Kg					
o-Xylene	<0.00200	U	0.0994	0.1024		mg/Kg					
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)			70 - 130								
1,4-Difluorobenzene (Surr)	101		70 - 130								

Lab Sample ID: 890-1555-1 MS

**Matrix: Solid** 

**Analysis Batch: 11997** 

MS MS %Recovery Qualifier Limits Surrogate 4-Bromofluorobenzene (Surr) 117 70 - 130 1,4-Difluorobenzene (Surr) 70 - 130 113

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

Lab Sample ID: MB 880-11990/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 11992 Prep Batch: 11990

	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		11/11/21 08:21	11/11/21 09:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/11/21 08:21	11/11/21 09:47	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/11/21 08:21	11/11/21 09:47	1
	MR	MR						

	Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	1-Chlorooctane	106		70 - 130	11/11/21 08:21	11/11/21 09:47	1
l	o-Terphenyl	127		70 - 130	11/11/21 08:21	11/11/21 09:47	1

Lab Sample ID: LCS 880-11990/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 11992** Prep Batch: 11990

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	895.5		mg/Kg		90	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	900.5		mg/Kg		90	70 - 130	

C10-C28)			
	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	84		70 - 130

93

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70 - 130

Client Sample ID: FS11

Prep Type: Total/NA

o-Terphenyl

Lab Sample ID: LCSD 880-11990/3-A

Lab Sample ID: 890-1555-1 MS

#### QC Sample Results

Client: WSP USA Inc. Job ID: 890-1555-1 Project/Site: PLU 78 SDG: 31403236.020.0129

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

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 11990

	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	1000	918.9		mg/Kg		92	70 - 130	3	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	1000	870.9		mg/Kg		87	70 - 130	3	20	

C10-C28)

**Matrix: Solid** 

Analysis Batch: 11992

LCSD LCSD

<50.0 U

<50.0 U

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	86		70 - 130

Client Sample ID: FS11

77

70 - 130

Prep Type: Total/NA

Prep Batch: 11990

**Analysis Batch: 11992** Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits 997 108 70 - 130 Gasoline Range Organics <50.0 U 1100 mg/Kg (GRO)-C6-C10

793.8

849.1

mg/Kg

mg/Kg

997

Diesel Range Organics (Over C10-C28)

**Matrix: Solid** 

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

Lab Sample ID: 890-1555-1 MSD Client Sample ID: FS11 **Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 11992** Prep Batch: 11990

Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit <50.0 U 998 1148 Gasoline Range Organics mg/Kg (GRO)-C6-C10

998

C10-C28)

MSD MSD Surrogate Limits %Recovery Qualifier 1-Chlorooctane

o-Terphenyl

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-12024/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 12046

Diesel Range Organics (Over

MB MB Analyte Result Qualifier RL Unit Analyzed Dil Fac D Prepared Chloride <5.00 U 5.00 11/11/21 15:36 mg/Kg

 Client: WSP USA Inc.
 Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-12024/2-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Soluble

Analysis Batch: 12046

 Analyte
 LCS LCS
 %Rec.

 Chloride
 250
 258.0
 mg/Kg
 103
 90 - 110

Lab Sample ID: LCSD 880-12024/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Soluble

Analysis Batch: 12046

Spike LCSD LCSD %Rec. RPD Added Result Qualifier Limit Analyte Unit D %Rec Limits RPD Chloride 250 257.6 mg/Kg 103 90 - 110 0

Lab Sample ID: 880-8189-A-1-E MS

Client Sample ID: Matrix Spike

Matrix: Solid Prep Type: Soluble

Analysis Batch: 12046

MS MS %Rec. Spike Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 3170 1240 4348 90 - 110 mg/Kg

Lab Sample ID: 880-8189-A-1-F MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Solid

Prep Type: Soluble

Matrix. John

Analysis Batch: 12046

MSD MSD RPD Sample Sample Spike %Rec. Analyte Result Qualifier Added Qualifier Unit %Rec RPD Limit Result D Limits Chloride 3170 1240 4351 96 90 - 110 20 mg/Kg

#### **QC Association Summary**

 Client: WSP USA Inc.
 Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

#### **GC VOA**

#### Prep Batch: 11996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1555-1	FS11	Total/NA	Solid	5035	
890-1555-2	FS12	Total/NA	Solid	5035	
MB 880-11996/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-11996/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-11996/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1555-1 MSD	FS11	Total/NA	Solid	5035	

#### **Analysis Batch: 11997**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1555-1	FS11	Total/NA	Solid	8021B	11996
890-1555-2	FS12	Total/NA	Solid	8021B	11996
MB 880-11996/5-A	Method Blank	Total/NA	Solid	8021B	11996
LCS 880-11996/1-A	Lab Control Sample	Total/NA	Solid	8021B	11996
LCSD 880-11996/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	11996
890-1555-1 MS	FS11	Total/NA	Solid	8021B	
890-1555-1 MSD	FS11	Total/NA	Solid	8021B	11996

#### Analysis Batch: 12040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1555-1	FS11	Total/NA	Solid	Total BTEX	
890-1555-2	FS12	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Prep Batch: 11990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1555-1	FS11	Total/NA	Solid	8015NM Prep	
890-1555-2	FS12	Total/NA	Solid	8015NM Prep	
MB 880-11990/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-11990/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-11990/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1555-1 MS	FS11	Total/NA	Solid	8015NM Prep	
890-1555-1 MSD	FS11	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 11992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1555-1	FS11	Total/NA	Solid	8015B NM	11990
890-1555-2	FS12	Total/NA	Solid	8015B NM	11990
MB 880-11990/1-A	Method Blank	Total/NA	Solid	8015B NM	11990
LCS 880-11990/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	11990
LCSD 880-11990/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	11990
890-1555-1 MS	FS11	Total/NA	Solid	8015B NM	11990
890-1555-1 MSD	FS11	Total/NA	Solid	8015B NM	11990

#### Analysis Batch: 12045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1555-1	FS11	Total/NA	Solid	8015 NM	
890-1555-2	FS12	Total/NA	Solid	8015 NM	

#### **QC Association Summary**

 Client: WSP USA Inc.
 Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

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#### Leach Batch: 12024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1555-1	FS11	Soluble	Solid	DI Leach	
890-1555-2	FS12	Soluble	Solid	DI Leach	
MB 880-12024/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12024/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12024/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-8189-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-8189-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 12046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1555-1	FS11	Soluble	Solid	300.0	12024
890-1555-2	FS12	Soluble	Solid	300.0	12024
MB 880-12024/1-A	Method Blank	Soluble	Solid	300.0	12024
LCS 880-12024/2-A	Lab Control Sample	Soluble	Solid	300.0	12024
LCSD 880-12024/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12024
880-8189-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	12024
880-8189-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12024

#### **Lab Chronicle**

Client: WSP USA Inc. Job ID: 890-1555-1 Project/Site: PLU 78 SDG: 31403236.020.0129

**Client Sample ID: FS11** 

Date Received: 11/10/21 11:23

Lab Sample ID: 890-1555-1 Date Collected: 11/10/21 09:02

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11996	11/11/21 08:57	KL	XEN MID
Total/NA	Analysis	8021B		1	11997	11/11/21 12:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:02	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11990	11/11/21 08:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11992	11/11/21 11:51	AJ	XEN MID
Soluble	Leach	DI Leach			12024	11/11/21 13:00	СН	XEN MID
Soluble	Analysis	300.0		20	12046	11/11/21 16:42	SC	XEN MID

**Client Sample ID: FS12** Lab Sample ID: 890-1555-2

Date Collected: 11/10/21 09:03 Matrix: Solid

Date Received: 11/10/21 11:23

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11996	11/11/21 08:57	KL	XEN MID
Total/NA	Analysis	8021B		1	11997	11/11/21 13:06	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:02	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11990	11/11/21 08:21	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11992	11/11/21 12:55	AJ	XEN MID
Soluble	Leach	DI Leach			12024	11/11/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		50	12046	11/11/21 17:04	SC	XEN MID

**Laboratory References:** 

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

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

 Client: WSP USA Inc.
 Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

#### **Laboratory: Eurofins Xenco, 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, bu	t the laboratory is not certif	ied by the governing authority. This list ma	av include analytes for wh
the agency does not of	fer certification.	•	, , ,	.,
the agency does not of Analysis Method	fer certification. Prep Method	Matrix	Analyte	-,
0 ,		Matrix Solid	Analyte Total TPH	

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#### **Method Summary**

 Client: WSP USA Inc.
 Job ID: 890-1555-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

Method **Method Description** Protocol Laboratory 8021B Volatile Organic Compounds (GC) SW846 XEN MID **Total BTEX Calculation** TAL SOP Total BTEX 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 SW846 XEN MID Closed System Purge and Trap 8015NM Prep Microextraction SW846 XEN MID DI Leach Deionized Water Leaching Procedure ASTM XEN MID

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

Eurofins Xenco, Carlsbad

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#### **Sample Summary**

Client: WSP USA Inc. Project/Site: PLU 78

Job ID: 890-1555-1

SDG: 31403236.020.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1555-1	FS11	Solid	11/10/21 09:02	11/10/21 11:23	4
890-1555-2	FS12	Solid	11/10/21 09:03	11/10/21 11:23	4

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h project and a charge of \$5 for each sample as Received by: (Signature)	Routine Rush: 24hr    Due Date:   (%s) No     Thermometer ID     Total Containers:   CAP     Total Containers:   C	Turn Around	Email: travis.casey			Company Name:	Bill to: (if different)	Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509- Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-11 Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FI
Date/Time	Cleant Company to & Charles Ba Be Company to & Chloride (EPA 300.0)		@wsp.com, kalei.jennin	carlsbad, NM	3104 E Greene St.		nt) Adrian Baker	00 Dallas.TX (214) 902-030( 140) EL Paso.TX (915)585-3 AZ (480-355-0900) Atlanta.G
Xanco. 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.  Reciprocal Project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and Project and Project and Project analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and Project and Project and Project analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project and Project analyzed. These terms will be enforced unless previously negotiated.  Reciprocal Project analyzed. These terms will be enforced unless previously negotiated.	Routine Rush: 24hr    Rush: 24hr     Due Date:     Wet Ice:   (%s) No     Trection Factor:   -Q . 2     Trime   Depth    ANALYSIS REQUEST	Email: travis.casey@wsp.com, kalei.jennings@wsp.com, dan.moir@w					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  575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)	
re) Received by: (Signature)	Ag SiO2 Na 1631	TS	Deliverables: EDD ADaPT		State of Project: NM	Program: UST/PST ☐PRP ☐ rownfields	Work Order Comments	20-2000) www.xenco.com
Date/Time	IN:NAPP2126639352 CC:1080781001 API:30-015-27536  TAT starts the day received by the lab, if received by 4:30pm  Sample Comments Composite Composite Composite Composite 1631/245.1/7470/7471:Hg	Work Order Notes	Other:	RP Uvel IV		ds RC Duperfund	nments	Page of )

Revised Date 051418 Rev 2018 1

Carlsbad NM 88220 Phone. 575-988-3199 Fax 575-988-3199

Project Name: PLU 78

TX 79701 Midland

Eurofins Xenco, Carlsbad

# **Chain of Custody Record**

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eurofins :

Environment Testing America

Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC. FS11 (890-1555-1) attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC. <sup>-</sup>S12 (890-1555-2) Sample Identification - Client ID (Lab ID) \$32-704-5440(Tel) Client Information (Sub Contract Lab) ossible Hazard Identification 1211 W Florida Ave elinquished by: elinquished by mpty Kit Relinquished by eliverable Requested I II III IV Other (specify) urofins Xenco hipping/Receiving Custody Seals Intact.

∆ Yes ∆ No B Custody Seal No 1.10.2 Project #: 89000004 Phone: Date/Time Primary Deliverable Rank 2 WO# TAT Requested (days Due Date Requested 11/11/2021 Sample Date 11/10/21 11/10/21 Date 09 02 Mountain 09 03 Mountain (C=comp, G=grab) Sample Type Preservation Code: Company Matrix Solid Solid Kramer Jessica jessica kramer@eurofinset.com Time Accreditations Required (See note)
NELAP - Louisiana NELAP - Texas Perform MS/MSD (Yes or No) Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) Special Instructions/QC Requirements Received by: 8015MOD\_NM/8015NM\_S\_Prep (MOD) Full TPH Cooler Temperature(s) °C and Other Remarks  $\times$ 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) Ú Archive For Total Number of containers E NaHSO4
F MeOH
G Amchlor
H Ascorbic Acid COC No 890-502 1 00 >Preservation Codes 890-1555-1 Page 1 of 1 ice
J DI Water
K EDTA
L EDA Zn Acetate Nitnc Acid NaHSO4 NaOH Special Instructions/Note 4 Moxane
V None
D AsNa02
VNB204S
VNB2503
R NB2503
R NB2504
F H2SO4
F H Ver: 06/08/2021 Company Months

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

Client: WSP USA Inc.

Job Number: 890-1555-1

SDG Number: 31403236.020.0129

Login Number: 1555 List Source: Eurofins Xenco, 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	
s 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 <a href="fam:46">&lt;6 mm (1/4").</a>	N/A	

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

Client: WSP USA Inc.

Job Number: 890-1555-1

SDG Number: 31403236.020.0129

List Source: Eurofins Xenco, Midland

List Creation: 11/11/21 11:49 AM

List Number: 2 Creator: Kramer, Jessica

Login Number: 1555

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").	N/A	

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### **Environment Testing America**

#### **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-1557-1

Laboratory Sample Delivery Group: 31403236.020.0129

Client Project/Site: PLU 78

For:

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

Attn: Tacoma Morrissey

MEAMER

Authorized for release by: 11/15/2021 8:12:43 PM

Jessica Kramer, Project Manager (432)704-5440

jessica.kramer@eurofinset.com

-----LINKS

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Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 8/22/2022 2:38:20 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.

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 Client: WSP USA Inc.
 Laboratory Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

# **Table of Contents**

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# **Definitions/Glossary**

Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

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

#### **HPLC/IC**

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

# Glossarv

Ciossary	
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)

DLC

DL, RA, RE, IN

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

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" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

Method Detection Limit MDL 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 Positive / Present POS **PQL Practical Quantitation Limit** 

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

RER Relative Error Ratio (Radiochemistry)

RLReporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points **RPD** 

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

**TNTC** Too Numerous To Count

Eurofins Xenco, Carlsbad

#### **Case Narrative**

 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

Job ID: 890-1557-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-1557-1

#### Receipt

The samples were received on 11/10/2021 11:23 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 9.6°C

#### GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS04 (890-1557-4) and (MB 880-11984/5-A). 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

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-11991 and analytical batch 880-11994 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: FS01 (890-1557-1), FS02 (890-1557-2), FS03 (890-1557-3), FS05 (890-1557-5), FS06 (890-1557-6), FS09 (890-1557-9) and FS10 (890-1557-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-11991/1-A). Evidence of matrix interferences is not obvious.

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-11932 and 880-11932 and analytical batch 880-12195 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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Lab Sample ID: 890-1557-1

# **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

**Client Sample ID: FS01** 

Date Collected: 11/10/21 08:51 Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 13:33	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 13:33	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 13:33	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/11/21 07:52	11/11/21 13:33	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 13:33	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/11/21 07:52	11/11/21 13:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130			11/11/21 07:52	11/11/21 13:33	1
1,4-Difluorobenzene (Surr)	102		70 - 130			11/11/21 07:52	11/11/21 13:33	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			11/11/21 14:14	1
Method: 8015 NM - Diesel Range Analyte			RL	Unit	D	Prepared	Analyzed	Dil Fa
Analyte	Result	Qualifier	RL	Unit ma/Ka	<u>D</u>	Prepared	Analyzed	
Analyte Total TPH		Qualifier U	<b>RL</b> 49.9	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 11/11/21 15:00	
Analyte Total TPH  Method: 8015B NM - Diesel Rang	Result <49.9  ge Organics (Di	Qualifier U RO) (GC)	49.9	mg/Kg		<u> </u>	11/11/21 15:00	1
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte	Result <49.9  ge Organics (Dige Result	Qualifier U RO) (GC) Qualifier	49.9	mg/Kg	<u>D</u>	Prepared	11/11/21 15:00 Analyzed	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics	Result <49.9  ge Organics (Dige Result	Qualifier U RO) (GC)	49.9	mg/Kg		<u> </u>	11/11/21 15:00	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10	ge Organics (D) Result <49.9  49.9	Qualifier U  RO) (GC) Qualifier U F1	49.9  RL 49.9	mg/Kg  Unit  mg/Kg		Prepared 11/11/21 08:22	11/11/21 15:00  Analyzed  11/11/21 11:51	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.9  ge Organics (Dige Result	Qualifier U  RO) (GC) Qualifier U F1	49.9	mg/Kg		Prepared	11/11/21 15:00 Analyzed	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10	ge Organics (D) Result <49.9  49.9	Qualifier U  RO) (GC) Qualifier U F1	49.9  RL 49.9	mg/Kg  Unit  mg/Kg		Prepared 11/11/21 08:22	11/11/21 15:00  Analyzed  11/11/21 11:51	Dil Fac
Analyte Total TPH  Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <49.9	Qualifier U  RO) (GC) Qualifier U F1 U	49.9  RL 49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 11/11/21 08:22 11/11/21 08:22	Analyzed 11/11/21 11:51 11/11/21 11:51	Dil Fac
Analyte 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)	Result   <49.9	Qualifier U  RO) (GC) Qualifier U F1 U	49.9  RL 49.9  49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 11/11/21 08:22 11/11/21 08:22 11/11/21 08:22	Analyzed 11/11/21 11:51 11/11/21 11:51 11/11/21 11:51	Dil Face
Analyte Total TPH  Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result   <49.9	Qualifier U  RO) (GC) Qualifier U F1 U  Qualifier	49.9  RL 49.9  49.9  49.9  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 11/11/21 08:22 11/11/21 08:22 11/11/21 08:22 Prepared	Analyzed 11/11/21 15:00  Analyzed 11/11/21 11:51 11/11/21 11:51 Analyzed	Dil Fac
Analyte 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	Result   <49.9	Qualifier U  RO) (GC) Qualifier U F1  U  Qualifier S1+ S1+	49.9  RL 49.9  49.9  49.9  Limits 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 11/11/21 08:22 11/11/21 08:22 11/11/21 08:22 Prepared 11/11/21 08:22	Analyzed 11/11/21 11:51 11/11/21 11:51 11/11/21 11:51 Analyzed 11/11/21 11:51	Dil Fac
Analyte 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	Result   <49.9	Qualifier U  RO) (GC) Qualifier U F1  U  Qualifier S1+ S1+	49.9  RL 49.9  49.9  49.9  Limits 70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 11/11/21 08:22 11/11/21 08:22 11/11/21 08:22 Prepared 11/11/21 08:22	Analyzed 11/11/21 11:51 11/11/21 11:51 11/11/21 11:51 Analyzed 11/11/21 11:51	Dil Face  1  Dil Face  1  Dil Face  1  Dil Face  1  Dil Face  1  Dil Face

**Client Sample ID: FS02** 

Date Collected: 11/10/21 08:52

Date Received: 11/10/21 11:23

Released to Imaging: 8/22/2022 2:38:20 PM

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		11/11/21 07:52	11/11/21 14:01	1
Toluene	<0.00198	U	0.00198	mg/Kg		11/11/21 07:52	11/11/21 14:01	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		11/11/21 07:52	11/11/21 14:01	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		11/11/21 07:52	11/11/21 14:01	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		11/11/21 07:52	11/11/21 14:01	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		11/11/21 07:52	11/11/21 14:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130			11/11/21 07:52	11/11/21 14:01	1

Eurofins Xenco, Carlsbad

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Lab Sample ID: 890-1557-2

Matrix: Solid

Lab Sample ID: 890-1557-2

# **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

**Client Sample ID: FS02** 

Date Collected: 11/10/21 08:52 Date Received: 11/10/21 11:23

Sample Depth: 4

Method: 8021B - Volati	le Organic Comp	ounds (GC)	(Continued)
modifical coaling foliati	io organio comp	, o a a o , o o ,	( Continuou,

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	112	70 - 130	11/11/21 07:52	11/11/21 14:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			11/11/21 14:14	1

Method: 8015 NM -	Diesel Rand	ne Organics	(DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg	<del>_</del>		11/11/21 15:00	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 12:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 12:55	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 12:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	122		70 - 130	11/11/21 08:22	11/11/21 12:55	1
o-Terphenyl	137	S1+	70 - 130	11/11/21 08:22	11/11/21 12:55	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	709	4.97	mg/Kg			11/11/21 18:33	1

Client Sample ID: FS03

Date Collected: 11/10/21 08:53

Lab Sample ID: 890-1557-3

Matrix: Solid

Date Collected: 11/10/21 08:53 Date Received: 11/10/21 11:23

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		11/11/21 07:52	11/11/21 14:28	1
Toluene	<0.00202	U	0.00202	mg/Kg		11/11/21 07:52	11/11/21 14:28	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		11/11/21 07:52	11/11/21 14:28	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		11/11/21 07:52	11/11/21 14:28	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		11/11/21 07:52	11/11/21 14:28	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		11/11/21 07:52	11/11/21 14:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			11/11/21 07:52	11/11/21 14:28	1
1,4-Difluorobenzene (Surr)	112		70 - 130			11/11/21 07:52	11/11/21 14:28	1

Mothod:	Total RTF	Y - Total R	TFX Calculatio	n

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	DII Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			11/11/21 14:14	1

Analyte	•	•	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH			<49.9	U	49.9	mg/Kg	1		11/11/21 15:00	1

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Matrix: Solid

Lab Sample ID: 890-1557-3

# **Client Sample Results**

Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

**Client Sample ID: FS03** 

Date Collected: 11/10/21 08:53 Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 13:16	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 13:16	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 13:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	125		70 - 130			11/11/21 08:22	11/11/21 13:16	1
o-Terphenyl	141	S1+	70 - 130			11/11/21 08:22	11/11/21 13:16	1
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14100		100	mg/Kg			11/11/21 18:40	20

Lab Sample ID: 890-1557-4 **Client Sample ID: FS04** 

Date Collected: 11/10/21 08:55 Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/11/21 07:52	11/11/21 14:56	1
Toluene	< 0.00199	U	0.00199	mg/Kg		11/11/21 07:52	11/11/21 14:56	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/11/21 07:52	11/11/21 14:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/11/21 07:52	11/11/21 14:56	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/11/21 07:52	11/11/21 14:56	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/11/21 07:52	11/11/21 14:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	183	S1+	70 - 130			11/11/21 07:52	11/11/21 14:56	1
1,4-Difluorobenzene (Surr)	79		70 - 130			11/11/21 07:52	11/11/21 14:56	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			11/11/21 14:14	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			11/11/21 15:00	1
Method: 8015B NM - Diesel Rang	je 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		11/11/21 08:22	11/11/21 13:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 13:38	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 13:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	122		70 - 130			11/11/21 08:22	11/11/21 13:38	1
o-Terphenyl	130		70 - 130			11/11/21 08:22	11/11/21 13:38	1

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Lab Sample ID: 890-1557-4

# **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

Client Sample ID: FS04

Date Collected: 11/10/21 08:55 Date Received: 11/10/21 11:23

Sample Depth: 4

Method: 300.0 - Anions, Ion Chromatography - Soluble									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	9540		49.9	mg/Kg			11/11/21 18:48	10

Client Sample ID: FS05

Date Collected: 11/10/21 08:56

Lab Sample ID: 890-1557-5

Matrix: Solid

Date Collected: 11/10/21 08:56 Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 15:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 15:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 15:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/11/21 07:52	11/11/21 15:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 15:23	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/11/21 07:52	11/11/21 15:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130			11/11/21 07:52	11/11/21 15:23	1
1,4-Difluorobenzene (Surr)	116		70 - 130			11/11/21 07:52	11/11/21 15:23	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			11/11/21 14:14	1
Method: 8015 NM - Diesel Range	•							
Analyte		Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Total TPH	93.6		49.9	mg/Kg			11/11/21 15:00	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	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 13:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 13:59	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 13:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130			11/11/21 08:22	11/11/21 13:59	1
o-Terphenyl	140	S1+	70 - 130			11/11/21 08:22	11/11/21 13:59	1
Method: 300.0 - Anions, Ion Chro	matography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
			4.95					

Lab Sample ID: 890-1557-6

# **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

**Client Sample ID: FS06** 

Date Collected: 11/10/21 08:57 Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 15:50	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 15:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 15:50	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/11/21 07:52	11/11/21 15:50	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 15:50	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/11/21 07:52	11/11/21 15:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			11/11/21 07:52	11/11/21 15:50	1
1,4-Difluorobenzene (Surr)	104		70 - 130			11/11/21 07:52	11/11/21 15:50	1
Method: Total BTEX - Total BTE	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/11/21 14:14	1
Analyte Total TPH		Qualifier U	<b>RL</b> 50.0	mg/Kg	D	Prepared	Analyzed 11/11/21 15:00	Dil Fac
Method: 8015B NM - Diesel Rang	ne Organics (D	RO) (GC)						
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 14:21	1
(GRO)-C6-C10 Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 14:21	1
C10-C28)								
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 14:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	131	S1+	70 - 130			11/11/21 08:22	11/11/21 14:21	1
o-Terphenyl	141	S1+	70 - 130			11/11/21 08:22	11/11/21 14:21	1
-								
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Method: 300.0 - Anions, Ion Chro Analyte		Soluble Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

**Client Sample ID: FS07** 

Date Collected: 11/10/21 08:58

Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 16:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 16:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 16:17	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/11/21 07:52	11/11/21 16:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 16:17	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/11/21 07:52	11/11/21 16:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130			11/11/21 07:52	11/11/21 16:17	1

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Lab Sample ID: 890-1557-7

**Matrix: Solid** 

Lab Sample ID: 890-1557-7

# **Client Sample Results**

 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

**Client Sample ID: FS07** 

Date Collected: 11/10/21 08:58 Date Received: 11/10/21 11:23

Sample Depth: 4

Method: 8021B	- Volatile Organi	c Compounds	(GC)	(Continued)
Method. 0021D	- voiatile Olyaili	c compounds	1001	(Continueu)

Surrogate	%Recovery Qua	alifier Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	103	70 - 130	11/11/21 07:52	11/11/21 16:17	1

N 0 - 41 1 -	T - 4 - 1	DTEV	T-4-1	DTEV	0-11-41
wetnoa:	iotai	RIFY -	- Iotai	RIFY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/11/21 14:14	1

П	Method: 8015 NM - Diese	Donge Organice /	DBO) (CC)
П	i Methou, ou la MM - Diese	Range Organics (	וטטו וטאט

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			11/11/21 15:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/11/21 08:22	11/11/21 14:42	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/11/21 08:22	11/11/21 14:42	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/11/21 08:22	11/11/21 14:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qu	ualifier Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111	70 - 130	11/11/21 08:22	11/11/21 14:42	1
o-Terphenyl	125	70 - 130	11/11/21 08:22	11/11/21 14:42	1

# Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	888	4.97	mg/Kg			11/11/21 19:10	1

Client Sample ID: FS08

Lab Sample ID: 890-1557-8

Date Collected: 11/10/21 08:59

Matrix: Solid

Date Collected: 11/10/21 08:59 Date Received: 11/10/21 11:23

Sample Depth: 4

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

		,						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		11/11/21 07:52	11/11/21 16:56	1
Toluene	<0.00202	U	0.00202	mg/Kg		11/11/21 07:52	11/11/21 16:56	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		11/11/21 07:52	11/11/21 16:56	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		11/11/21 07:52	11/11/21 16:56	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		11/11/21 07:52	11/11/21 16:56	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		11/11/21 07:52	11/11/21 16:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	186	S1+	70 - 130			11/11/21 07:52	11/11/21 16:56	1
1,4-Difluorobenzene (Surr)	113		70 - 130			11/11/21 07:52	11/11/21 16:56	1

## Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00403	U	0.00403	ma/Ka			11/11/21 14:14	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			11/11/21 15:00	1

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Lab Sample ID: 890-1557-8

 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

**Client Sample ID: FS08** 

Date Collected: 11/10/21 08:59 Date Received: 11/10/21 11:23

Sample Depth: 4

Method: 8015B NM - Diesel Rang	je Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 15:04	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 15:04	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 15:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130			11/11/21 08:22	11/11/21 15:04	
o-Terphenyl	126		70 - 130			11/11/21 08:22	11/11/21 15:04	1
- Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7570		50.0	mg/Kg			11/15/21 12:59	10

Client Sample ID: FS09

Date Collected: 11/10/21 09:00

Matrix: Solid

Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/11/21 07:52	11/11/21 17:21	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/11/21 07:52	11/11/21 17:21	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/11/21 07:52	11/11/21 17:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/11/21 07:52	11/11/21 17:21	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		11/11/21 07:52	11/11/21 17:21	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/11/21 07:52	11/11/21 17:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130			11/11/21 07:52	11/11/21 17:21	1
1,4-Difluorobenzene (Surr)	119		70 - 130			11/11/21 07:52	11/11/21 17:21	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			11/11/21 14:14	1
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			11/11/21 15:00	1
Method: 8015B NM - Diesel Rang	je Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 15:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 15:25	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/11/21 08:22	11/11/21 15:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130			11/11/21 08:22	11/11/21 15:25	1
o-Terphenyl	405	S1+	70 - 130			11/11/21 08:22	11/11/21 15:25	1

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Lab Sample ID: 890-1557-9

Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

**Client Sample ID: FS09** 

Date Collected: 11/10/21 09:00 Date Received: 11/10/21 11:23

Sample Depth: 4

Method: 300.0 - Anions, Ion Chrom	lethod: 300.0 - Anions, Ion Chromatography - Soluble								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	20400		99.8	mg/Kg			11/15/21 13:04	20	

**Client Sample ID: FS10** Lab Sample ID: 890-1557-10 Matrix: Solid

Date Collected: 11/10/21 09:01 Date Received: 11/10/21 11:23

Sample Depth: 4

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 17:48	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 17:48	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 17:48	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/11/21 07:52	11/11/21 17:48	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 17:48	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/11/21 07:52	11/11/21 17:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130			11/11/21 07:52	11/11/21 17:48	1
1,4-Difluorobenzene (Surr)	113		70 - 130			11/11/21 07:52	11/11/21 17:48	1
Method: Total BTEX - Total BTEX	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/11/21 14:14	1
Method: 8015 NM - Diesel Range Analyte	Result	Qualifier	RL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Total TPH			49.9	mg/Kg				
							11/11/21 15:00	1
Method: 8015B NM - Diesel Rand	ne Organics (D	RO) (GC)					11/11/21 15:00	1
	• •		RL	Unit	D	Prepared		
Analyte Gasoline Range Organics	• •	Qualifier	<b>RL</b> 49.9	Unit mg/Kg	<u>D</u>	Prepared 11/11/21 08:22	Analyzed 11/11/21 15:46	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result	Qualifier U			<u>D</u>		Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result   <49.9	Qualifier U	49.9	mg/Kg	<u>D</u>	11/11/21 08:22	Analyzed 11/11/21 15:46	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result   <49.9   <49.9	Qualifier U U U	49.9	mg/Kg	<u> </u>	11/11/21 08:22	Analyzed 11/11/21 15:46 11/11/21 15:46	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	Result	Qualifier U U U	49.9 49.9 49.9	mg/Kg	<u> </u>	11/11/21 08:22 11/11/21 08:22 11/11/21 08:22	Analyzed 11/11/21 15:46 11/11/21 15:46 11/11/21 15:46	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	Result	Qualifier U U U Qualifier	49.9 49.9 49.9 <i>Limits</i>	mg/Kg	<u> </u>	11/11/21 08:22 11/11/21 08:22 11/11/21 08:22 Prepared	Analyzed 11/11/21 15:46 11/11/21 15:46 11/11/21 15:46 Analyzed	Dil Fac
	Result	Qualifier  U  U  Qualifier  S1+ S1+	49.9 49.9 49.9 <b>Limits</b> 70 - 130	mg/Kg	<u>D</u>	11/11/21 08:22 11/11/21 08:22 11/11/21 08:22 Prepared 11/11/21 08:22	Analyzed 11/11/21 15:46 11/11/21 15:46 11/11/21 15:46  Analyzed 11/11/21 15:46	Dil Fac
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  U  Qualifier  S1+ S1+	49.9 49.9 49.9 <b>Limits</b> 70 - 130	mg/Kg	<u>D</u>	11/11/21 08:22 11/11/21 08:22 11/11/21 08:22 Prepared 11/11/21 08:22	Analyzed 11/11/21 15:46 11/11/21 15:46 11/11/21 15:46  Analyzed 11/11/21 15:46	Dil Fac

# **Surrogate Summary**

 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

latrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-1557-1	FS01	95	102	
890-1557-1 MS	FS01	86	119	
890-1557-1 MSD	FS01	85	116	
890-1557-2	FS02	89	112	
890-1557-3	FS03	90	112	
890-1557-4	FS04	183 S1+	79	
890-1557-5	FS05	97	116	
890-1557-6	FS06	99	104	
890-1557-7	FS07	95	103	
890-1557-8	FS08	186 S1+	113	
890-1557-9	FS09	113	119	
890-1557-10	FS10	104	113	
LCS 880-11984/1-A	Lab Control Sample	83	119	
LCSD 880-11984/2-A	Lab Control Sample Dup	89	118	
MB 880-11984/5-A	Method Blank	60 S1-	103	
Surrogate Legend				
BFB = 4-Bromofluoroben	zene (Surr)			

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)	
90-1557-1	FS01	140 S1+	161 S1+	
90-1557-1 MS	FS01	117	118	
90-1557-1 MSD	FS01	118	119	
0-1557-2	FS02	122	137 S1+	
90-1557-3	FS03	125	141 S1+	
90-1557-4	FS04	122	130	
90-1557-5	FS05	127	140 S1+	
90-1557-6	FS06	131 S1+	141 S1+	
90-1557-7	FS07	111	125	
90-1557-8	FS08	111	126	
90-1557-9	FS09	127	135 S1+	
90-1557-10	FS10	131 S1+	143 S1+	
CS 880-11991/2-A	Lab Control Sample	79	84	
CSD 880-11991/3-A	Lab Control Sample Dup	89	96	
/IB 880-11991/1-A	Method Blank	121	143 S1+	
Surrogate Legend				
1CO = 1-Chlorooctane				
OTPH = o-Terphenyl				

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Job ID: 890-1557-1 Client: WSP USA Inc. SDG: 31403236.020.0129 Project/Site: PLU 78

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-11984/5-A

Lab Sample ID: LCS 880-11984/1-A

Lab Sample ID: LCSD 880-11984/2-A

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 11985** 

Analysis Batch: 11985

**Matrix: Solid** 

Analysis Batch: 11985

Client	Sample	ID:	Method	Blank
	•			

Prep Type: Total/NA

Prep Batch: 11984

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	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 13:05	•
Toluene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 13:05	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 13:05	
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/11/21 07:52	11/11/21 13:05	
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/11/21 07:52	11/11/21 13:05	
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/11/21 07:52	11/11/21 13:05	

MB MB

MD MD

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	60	S1-	70 - 130	11/11/21 07:52	11/11/21 13:05	1
1,4-Difluorobenzene (Surr)	103		70 - 130	11/11/21 07:52	11/11/21 13:05	1

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 11984

Spike LCS LCS Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.09527 mg/Kg 95 70 - 130 Toluene 0.100 0.07811 mg/Kg 78 70 - 130 0.100 0.08233 82 70 - 130 Ethylbenzene mg/Kg m-Xylene & p-Xylene 0.200 0.1779 89 70 - 130 mg/Kg 0.100 0.08999 70 - 130 o-Xylene mg/Kg

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		70 - 130
1,4-Difluorobenzene (Surr)	119		70 - 130

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

Prep Type: Total/NA

Prep Batch: 11984

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1004		mg/Kg		100	70 - 130	5	35
Toluene	0.100	0.07784		mg/Kg		78	70 - 130	0	35
Ethylbenzene	0.100	0.08568		mg/Kg		86	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1845		mg/Kg		92	70 - 130	4	35
o-Xylene	0.100	0.09405		mg/Kg		94	70 - 130	4	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	89	70 - 130
1,4-Difluorobenzene (Surr)	118	70 - 130

Lab Sample ID: 890-1557-1 MSD

**Matrix: Solid** 

**Analysis Batch: 11985** 

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 11984

, <b>,</b>											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U	0.0994	0.09769		mg/Kg					
Toluene	< 0.00200	U	0.0994	0.07506		ma/Ka					

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 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

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

	Lab Sample ID: 890-1557-1 MSD				Client Sar	mple ID: FS01
	Matrix: Solid				Prep 1	ype: Total/NA
	Analysis Batch: 11985				Prep	Batch: 11984
1		Comple Comple	Cnika	MCD MCD	0/ Boo	DDD

Analysis Batch: 11985									Prep	Batch:	11984
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ethylbenzene	<0.00200	U	0.0994	0.07663		mg/Kg					
m-Xylene & p-Xylene	<0.00400	U	0.199	0.1771		mg/Kg					
o-Xylene	<0.00200	U	0.0994	0.01040		mg/Kg					
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	85		70 - 130								
1,4-Difluorobenzene (Surr)	116		70 - 130								

Lab Sample ID: 890-1557-1 MS

Matrix: Solid

**Analysis Batch: 11985** 

	Prep Type: Total/NA

 Surrogate
 %Recovery
 Qualifier
 Limits

 4-Bromofluorobenzene (Surr)
 86
 70 - 130

 1,4-Difluorobenzene (Surr)
 119
 70 - 130

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

Lab Sample ID: MB 880-11991/1-A

Matrix: Solid

Analysis Batch: 11994

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 11991

	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		11/11/21 08:22	11/11/21 09:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 09:47	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/11/21 08:22	11/11/21 09:47	1
	MR	MR						

	WD	mb							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1-Chlorooctane	121		70 - 130	11/11/21 08:22	11/11/21 09:47	1			
o-Terphenyl	143	S1+	70 - 130	11/11/21 08:22	11/11/21 09:47	1			

Lab Sample ID: LCS 880-11991/2-A

Matrix: Solid

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analysis Batch: 11994

Prep Batch: 11991

Spike LCS LCS %Rec.

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1281		mg/Kg		128	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	1011		mg/Kg		101	70 - 130	
C10-C28)								

C10-C28)			
	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	79		70 - 130
o-Terphenyl	84		70 - 130

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**Client Sample ID: FS01** 

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Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

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

Lab Sample ID: LCSD 880-11991/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** Analysis Batch: 11994 Prep Type: Total/NA Prep Batch: 11991

Spike LCSD LCSD RPD RPD Limit Analyte Added Result Qualifier Unit %Rec Limits D Gasoline Range Organics 1000 1216 mg/Kg 122 70 - 130 5 20 (GRO)-C6-C10 1000 943.3 94 70 - 130Diesel Range Organics (Over mg/Kg 7 20

C10-C28)

LCSD LCSD %Recovery Qualifier Limits Surrogate 1-Chlorooctane 70 - 130 89 o-Terphenyl 96 70 - 130

Lab Sample ID: 890-1557-1 MS **Client Sample ID: FS01** Prep Type: Total/NA

**Matrix: Solid** 

**Analysis Batch: 11994** 

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits 160 Gasoline Range Organics <49.9 UF1 997 1600 F1 mg/Kg 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 997 1097 mg/Kg 106 70 - 130

C10-C28)

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 117 70 - 130 o-Terphenyl 118 70 - 130

Lab Sample ID: 890-1557-1 MSD **Client Sample ID: FS01 Matrix: Solid** 

Prep Type: Total/NA Analysis Batch: 11994 Prep Batch: 11991 Sample Sample Spike MSD MSD %Rec. **RPD** 

Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit <49.9 U F1 998 1611 F1 20 Gasoline Range Organics 161 70 - 130 mg/Kg (GRO)-C6-C10 998 1109 107 Diesel Range Organics (Over <49.9 U mg/Kg 70 - 130 20 C10-C28)

MSD MSD Qualifier Limits Surrogate %Recovery 1-Chlorooctane 118 70 - 130 119 70 - 130 o-Terphenyl

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-12024/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

Matrix: Solid

**Analysis Batch: 12046** MB MB

Analyte Result Qualifier RL Unit Analyzed Dil Fac D Prepared Chloride <5.00 U 5.00 11/11/21 15:36 mg/Kg

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Released to Imaging: 8/22/2022 2:38:20 PM

Prep Batch: 11991

Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-12024/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 12046

LCS LCS %Rec. Spike Analyte Added Result Qualifier %Rec Limits Unit D Chloride 250 258.0 mg/Kg 103 90 - 110

Lab Sample ID: LCSD 880-12024/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 12046** 

Spike LCSD LCSD %Rec. RPD Added Analyte Result Qualifier Unit D %Rec Limits RPD Limit Chloride 250 257.6 mg/Kg 103 90 - 110 n

Lab Sample ID: 890-1556-A-6-G MS Client Sample ID: Matrix Spike

**Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 12046** 

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 323.9 76.0 248 mg/Kg 100 90 - 110

Lab Sample ID: 890-1556-A-6-H MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 12046** 

MSD MSD RPD Spike %Rec. Sample Sample Added RPD Limit Analyte Result Qualifier Result Qualifier Unit %Rec Limits Chloride 76.0 248 317.8 90 - 110 20 mg/Kg

Lab Sample ID: MB 880-11932/1-A Client Sample ID: Method Blank **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 12195** 

MR MR

Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac 5.00 Chloride <5.00 U mg/Kg 11/13/21 14:26

Lab Sample ID: LCS 880-11932/2-A Client Sample ID: Lab Control Sample Matrix: Solid **Prep Type: Soluble** 

**Analysis Batch: 12195** 

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit %Rec Limits Chloride 250 248.3 mg/Kg 90 - 110

Lab Sample ID: LCSD 880-11932/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 12195** 

LCSD LCSD RPD Spike %Rec. Added Result Qualifier Limits RPD Limit Analyte Unit D %Rec Chloride 250 249.8 mg/Kg 100 90 - 110 20

Lab Sample ID: 880-8274-A-2-C MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 12195** 

Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 1680 F1 1240 2575 F1 mg/Kg 72 90 - 110

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Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-8274-A-2-D MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 12195

Sample Sample Spike MSD MSD %Rec. RPD Result Qualifier Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit Chloride 1680 F1 1250 2902 mg/Kg 97 90 - 110 12 20

Lab Sample ID: MB 880-12295/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 12337** 

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Result Qualifier Unit Dil Fac Analyte RL D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 11/15/21 14:19

Lab Sample ID: LCS 880-12295/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 12337** 

LCS LCS %Rec. Spike Analyte Added Result Qualifier Unit %Rec Limits Chloride 250 248.5 mg/Kg 90 - 110

Lab Sample ID: LCSD 880-12295/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 12337** 

LCSD LCSD Spike RPD %Rec. Analyte Added Result Qualifier %Rec RPD Limit Unit Limits Chloride 250 247.2 90 - 110 20 mg/Kg

Lab Sample ID: 890-1571-A-5-H MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 12337** 

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 249 Chloride 83.5 354.4 mg/Kg 109 90 - 110

Lab Sample ID: 890-1571-A-5-I MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 12337** 

Sample Sample Spike MSD MSD %Rec. **RPD** Added Result Qualifier RPD Limit Analyte Result Qualifier Unit D %Rec Limits 83.5 Chloride 249 339.9 mg/Kg 103 90 - 110 20

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 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

# **GC VOA**

# Prep Batch: 11984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-1	FS01	Total/NA	Solid	5035	
890-1557-2	FS02	Total/NA	Solid	5035	
890-1557-3	FS03	Total/NA	Solid	5035	
890-1557-4	FS04	Total/NA	Solid	5035	
890-1557-5	FS05	Total/NA	Solid	5035	
890-1557-6	FS06	Total/NA	Solid	5035	
890-1557-7	FS07	Total/NA	Solid	5035	
890-1557-8	FS08	Total/NA	Solid	5035	
890-1557-9	FS09	Total/NA	Solid	5035	
890-1557-10	FS10	Total/NA	Solid	5035	
MB 880-11984/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-11984/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-11984/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1557-1 MSD	FS01	Total/NA	Solid	5035	

# **Analysis Batch: 11985**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-1	FS01	Total/NA	Solid	8021B	11984
890-1557-2	FS02	Total/NA	Solid	8021B	11984
890-1557-3	FS03	Total/NA	Solid	8021B	11984
890-1557-4	FS04	Total/NA	Solid	8021B	11984
890-1557-5	FS05	Total/NA	Solid	8021B	11984
890-1557-6	FS06	Total/NA	Solid	8021B	11984
890-1557-7	FS07	Total/NA	Solid	8021B	11984
890-1557-8	FS08	Total/NA	Solid	8021B	11984
890-1557-9	FS09	Total/NA	Solid	8021B	11984
890-1557-10	FS10	Total/NA	Solid	8021B	11984
MB 880-11984/5-A	Method Blank	Total/NA	Solid	8021B	11984
LCS 880-11984/1-A	Lab Control Sample	Total/NA	Solid	8021B	11984
LCSD 880-11984/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	11984
890-1557-1 MS	FS01	Total/NA	Solid	8021B	
890-1557-1 MSD	FS01	Total/NA	Solid	8021B	11984

# **Analysis Batch: 12040**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
890-1557-1	FS01	Total/NA	Solid	Total BTEX	
890-1557-2	FS02	Total/NA	Solid	Total BTEX	
890-1557-3	FS03	Total/NA	Solid	Total BTEX	
890-1557-4	FS04	Total/NA	Solid	Total BTEX	
890-1557-5	FS05	Total/NA	Solid	Total BTEX	
390-1557-6	FS06	Total/NA	Solid	Total BTEX	
390-1557-7	FS07	Total/NA	Solid	Total BTEX	
390-1557-8	FS08	Total/NA	Solid	Total BTEX	
890-1557-9	FS09	Total/NA	Solid	Total BTEX	
890-1557-10	FS10	Total/NA	Solid	Total BTEX	

# **GC Semi VOA**

# Prep Batch: 11991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-1	FS01	Total/NA	Solid	8015NM Prep	

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 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

# GC Semi VOA (Continued)

# Prep Batch: 11991 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-2	FS02	Total/NA	Solid	8015NM Prep	
890-1557-3	FS03	Total/NA	Solid	8015NM Prep	
890-1557-4	FS04	Total/NA	Solid	8015NM Prep	
890-1557-5	FS05	Total/NA	Solid	8015NM Prep	
890-1557-6	FS06	Total/NA	Solid	8015NM Prep	
890-1557-7	FS07	Total/NA	Solid	8015NM Prep	
890-1557-8	FS08	Total/NA	Solid	8015NM Prep	
890-1557-9	FS09	Total/NA	Solid	8015NM Prep	
890-1557-10	FS10	Total/NA	Solid	8015NM Prep	
MB 880-11991/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-11991/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-11991/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1557-1 MS	FS01	Total/NA	Solid	8015NM Prep	
890-1557-1 MSD	FS01	Total/NA	Solid	8015NM Prep	

# Analysis Batch: 11994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-1	FS01	Total/NA	Solid	8015B NM	11991
890-1557-2	FS02	Total/NA	Solid	8015B NM	11991
890-1557-3	FS03	Total/NA	Solid	8015B NM	11991
890-1557-4	FS04	Total/NA	Solid	8015B NM	11991
890-1557-5	FS05	Total/NA	Solid	8015B NM	11991
890-1557-6	FS06	Total/NA	Solid	8015B NM	11991
890-1557-7	FS07	Total/NA	Solid	8015B NM	11991
890-1557-8	FS08	Total/NA	Solid	8015B NM	11991
890-1557-9	FS09	Total/NA	Solid	8015B NM	11991
890-1557-10	FS10	Total/NA	Solid	8015B NM	11991
MB 880-11991/1-A	Method Blank	Total/NA	Solid	8015B NM	11991
LCS 880-11991/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	11991
LCSD 880-11991/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	11991
890-1557-1 MS	FS01	Total/NA	Solid	8015B NM	11991
890-1557-1 MSD	FS01	Total/NA	Solid	8015B NM	11991

# Analysis Batch: 12045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
890-1557-1	FS01	Total/NA	Solid	8015 NM	_
390-1557-2	FS02	Total/NA	Solid	8015 NM	
390-1557-3	FS03	Total/NA	Solid	8015 NM	
390-1557-4	FS04	Total/NA	Solid	8015 NM	
390-1557-5	FS05	Total/NA	Solid	8015 NM	
390-1557-6	FS06	Total/NA	Solid	8015 NM	
390-1557-7	FS07	Total/NA	Solid	8015 NM	
390-1557-8	FS08	Total/NA	Solid	8015 NM	
390-1557-9	FS09	Total/NA	Solid	8015 NM	
390-1557-10	FS10	Total/NA	Solid	8015 NM	

# HPLC/IC

# Leach Batch: 11932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-8	FS08	Soluble	Solid	DI Leach	

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Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

# **HPLC/IC** (Continued)

# Leach Batch: 11932 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-9	FS09	Soluble	Solid	DI Leach	
MB 880-11932/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-11932/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-11932/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-8274-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-8274-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

# Leach Batch: 12024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-1	FS01	Soluble	Solid	DI Leach	_
890-1557-2	FS02	Soluble	Solid	DI Leach	
890-1557-3	FS03	Soluble	Solid	DI Leach	
890-1557-4	FS04	Soluble	Solid	DI Leach	
890-1557-5	FS05	Soluble	Solid	DI Leach	
890-1557-6	FS06	Soluble	Solid	DI Leach	
890-1557-7	FS07	Soluble	Solid	DI Leach	
MB 880-12024/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12024/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12024/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1556-A-6-G MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1556-A-6-H MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

# Analysis Batch: 12046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-1	FS01	Soluble	Solid	300.0	12024
890-1557-2	FS02	Soluble	Solid	300.0	12024
890-1557-3	FS03	Soluble	Solid	300.0	12024
890-1557-4	FS04	Soluble	Solid	300.0	12024
890-1557-5	FS05	Soluble	Solid	300.0	12024
890-1557-6	FS06	Soluble	Solid	300.0	12024
890-1557-7	FS07	Soluble	Solid	300.0	12024
MB 880-12024/1-A	Method Blank	Soluble	Solid	300.0	12024
LCS 880-12024/2-A	Lab Control Sample	Soluble	Solid	300.0	12024
LCSD 880-12024/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12024
890-1556-A-6-G MS	Matrix Spike	Soluble	Solid	300.0	12024
890-1556-A-6-H MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12024

# Analysis Batch: 12195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-8	FS08	Soluble	Solid	300.0	11932
890-1557-9	FS09	Soluble	Solid	300.0	11932
MB 880-11932/1-A	Method Blank	Soluble	Solid	300.0	11932
LCS 880-11932/2-A	Lab Control Sample	Soluble	Solid	300.0	11932
LCSD 880-11932/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	11932
880-8274-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	11932
880-8274-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	11932

# Leach Batch: 12295

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-10	FS10	Soluble	Solid	DI Leach	
MB 880-12295/1-A	Method Blank	Soluble	Solid	DI Leach	

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 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

# **HPLC/IC** (Continued)

# Leach Batch: 12295 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-12295/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12295/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1571-A-5-H MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1571-A-5-I MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

# Analysis Batch: 12337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1557-10	FS10	Soluble	Solid	300.0	12295
MB 880-12295/1-A	Method Blank	Soluble	Solid	300.0	12295
LCS 880-12295/2-A	Lab Control Sample	Soluble	Solid	300.0	12295
LCSD 880-12295/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12295
890-1571-A-5-H MS	Matrix Spike	Soluble	Solid	300.0	12295
890-1571-A-5-I MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	12295

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Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

**Client Sample ID: FS01** 

Date Received: 11/10/21 11:23

Lab Sample ID: 890-1557-1 Date Collected: 11/10/21 08:51

**Matrix: Solid** 

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11984	11/11/21 07:52	KL	XEN MID
Total/NA	Analysis	8021B		1	11985	11/11/21 13:33	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11991	11/11/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11994	11/11/21 11:51	AJ	XEN MID
Soluble	Leach	DI Leach			12024	11/11/21 13:00	СН	XEN MID
Soluble	Analysis	300.0		1	12046	11/11/21 18:11	SC	XEN MID

Lab Sample ID: 890-1557-2 **Client Sample ID: FS02** 

Date Collected: 11/10/21 08:52 **Matrix: Solid** 

Date Received: 11/10/21 11:23

Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst Lab 5035 XEN MID Total/NA Prep 11984 11/11/21 07:52 KL 8021B Total/NA 11/11/21 14:01 XEN MID Analysis 1 11985 MR Total/NA Total BTEX 11/11/21 14:14 XEN MID Analysis 1 12040 A.I XEN MID Total/NA Analysis 8015 NM 12045 11/11/21 15:00 Total/NA 11991 11/11/21 08:22 XEN MID Prep 8015NM Prep DM Total/NA Analysis 8015B NM 11994 11/11/21 12:55 AJ XEN MID XEN MID Soluble Leach DI Leach 12024 11/11/21 13:00 CH Soluble Analysis 300.0 1 12046 11/11/21 18:33 SC XEN MID

Lab Sample ID: 890-1557-3 **Client Sample ID: FS03** Date Collected: 11/10/21 08:53 **Matrix: Solid** 

Date Received: 11/10/21 11:23

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11984	11/11/21 07:52	KL	XEN MID
Total/NA	Analysis	8021B		1	11985	11/11/21 14:28	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11991	11/11/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11994	11/11/21 13:16	AJ	XEN MID
Soluble	Leach	DI Leach			12024	11/11/21 13:00	СН	XEN MID
Soluble	Analysis	300.0		20	12046	11/11/21 18:40	SC	XEN MID

**Client Sample ID: FS04** Lab Sample ID: 890-1557-4

Date Collected: 11/10/21 08:55 Date Received: 11/10/21 11:23

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11984	11/11/21 07:52	KL	XEN MID
Total/NA	Analysis	8021B		1	11985	11/11/21 14:56	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:14	AJ	XEN MID

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Matrix: Solid

Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

**Client Sample ID: FS04** 

Date Received: 11/10/21 11:23

Lab Sample ID: 890-1557-4 Date Collected: 11/10/21 08:55 Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11991	11/11/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11994	11/11/21 13:38	AJ	XEN MID
Soluble	Leach	DI Leach			12024	11/11/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		10	12046	11/11/21 18:48	SC	XEN MID

**Client Sample ID: FS05** Lab Sample ID: 890-1557-5

Date Collected: 11/10/21 08:56 **Matrix: Solid** 

Date Received: 11/10/21 11:23

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11984	11/11/21 07:52	KL	XEN MID
Total/NA	Analysis	8021B		1	11985	11/11/21 15:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11991	11/11/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11994	11/11/21 13:59	AJ	XEN MID
Soluble	Leach	DI Leach			12024	11/11/21 13:00	CH	XEN MID
Soluble	Analysis	300.0		1	12046	11/11/21 18:55	SC	XEN MID

**Client Sample ID: FS06** Lab Sample ID: 890-1557-6 **Matrix: Solid** 

Date Collected: 11/10/21 08:57 Date Received: 11/10/21 11:23

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11984	11/11/21 07:52	KL	XEN MID
Total/NA	Analysis	8021B		1	11985	11/11/21 15:50	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11991	11/11/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11994	11/11/21 14:21	AJ	XEN MID
Soluble	Leach	DI Leach			12024	11/11/21 13:00	СН	XEN MID
Soluble	Analysis	300.0		1	12046	11/11/21 19:03	SC	XEN MID

**Client Sample ID: FS07** Lab Sample ID: 890-1557-7

Date Collected: 11/10/21 08:58 Date Received: 11/10/21 11:23

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11984	11/11/21 07:52	KL	XEN MID
Total/NA	Analysis	8021B		1	11985	11/11/21 16:17	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11991	11/11/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11994	11/11/21 14:42	AJ	XEN MID

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11/15/2021

**Matrix: Solid** 

Client: WSP USA Inc. Job ID: 890-1557-1 Project/Site: PLU 78 SDG: 31403236.020.0129

**Client Sample ID: FS07** 

Date Received: 11/10/21 11:23

Lab Sample ID: 890-1557-7 Date Collected: 11/10/21 08:58

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			12024	11/11/21 13:00	СН	XEN MID
Soluble	Analysis	300.0		1	12046	11/11/21 19:10	SC	XEN MID

**Client Sample ID: FS08** Lab Sample ID: 890-1557-8

**Matrix: Solid** 

Date Collected: 11/10/21 08:59 Date Received: 11/10/21 11:23

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11984	11/11/21 07:52	KL	XEN MID
Total/NA	Analysis	8021B		1	11985	11/11/21 16:56	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11991	11/11/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11994	11/11/21 15:04	AJ	XEN MID
Soluble	Leach	DI Leach			11932	11/12/21 10:53	SC	XEN MID
Soluble	Analysis	300.0		10	12195	11/15/21 12:59	CH	XEN MID

**Client Sample ID: FS09** Lab Sample ID: 890-1557-9

Date Collected: 11/10/21 09:00 **Matrix: Solid** 

Date Received: 11/10/21 11:23

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11984	11/11/21 07:52	KL	XEN MID
Total/NA	Analysis	8021B		1	11985	11/11/21 17:21	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11991	11/11/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11994	11/11/21 15:25	AJ	XEN MID
Soluble	Leach	DI Leach			11932	11/12/21 10:53	SC	XEN MID
Soluble	Analysis	300.0		20	12195	11/15/21 13:04	CH	XEN MID

**Client Sample ID: FS10** Lab Sample ID: 890-1557-10 Date Collected: 11/10/21 09:01 **Matrix: Solid** 

Date Received: 11/10/21 11:23

<del>_</del>	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11984	11/11/21 07:52	KL	XEN MID
Total/NA	Analysis	8021B		1	11985	11/11/21 17:48	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	12040	11/11/21 14:14	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12045	11/11/21 15:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			11991	11/11/21 08:22	DM	XEN MID
Total/NA	Analysis	8015B NM		1	11994	11/11/21 15:46	AJ	XEN MID
Soluble	Leach	DI Leach			12295	11/15/21 11:50	CH	XEN MID
Soluble	Analysis	300.0		50	12337	11/15/21 20:22	SC	XEN MID

Eurofins Xenco, Carlsbad

Client: WSP USA Inc. Project/Site: PLU 78

Job ID: 890-1557-1 SDG: 31403236.020.0129

# Laboratory References:

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

# **Accreditation/Certification Summary**

 Client: WSP USA Inc.
 Job ID: 890-1557-1

 Project/Site: PLU 78
 SDG: 31403236.020.0129

# **Laboratory: Eurofins Xenco, 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, but	t the laboratory is not certific	ed by the governing authority. This list ma	av include analytee for
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# **Method Summary**

Job ID: 890-1557-1 Client: WSP USA Inc. Project/Site: PLU 78 SDG: 31403236.020.0129

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

#### **Protocol References:**

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

Eurofins Xenco, Carlsbad

Released to Imaging: 8/22/2022 2:38:20 PM

# **Sample Summary**

Client: WSP USA Inc. Project/Site: PLU 78

Job ID: 890-1557-1

SDG: 31403236.020.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1557-1	FS01	Solid	11/10/21 08:51	11/10/21 11:23	4
890-1557-2	FS02	Solid	11/10/21 08:52	11/10/21 11:23	4
890-1557-3	FS03	Solid	11/10/21 08:53	11/10/21 11:23	4
890-1557-4	FS04	Solid	11/10/21 08:55	11/10/21 11:23	4
890-1557-5	FS05	Solid	11/10/21 08:56	11/10/21 11:23	4
890-1557-6	FS06	Solid	11/10/21 08:57	11/10/21 11:23	4
890-1557-7	FS07	Solid	11/10/21 08:58	11/10/21 11:23	4
890-1557-8	FS08	Solid	11/10/21 08:59	11/10/21 11:23	4
890-1557-9	FS09	Solid	11/10/21 09:00	11/10/21 11:23	4
890-1557-10	FS10	Solid	11/10/21 09:01	11/10/21 11:23	4

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**Eurofins Xenco, Carlsbad** 

🐝 eurofins

# **Chain of Custody Record**

1089 N Canal St Carlshad NM 88220	0	hain	Chain of Custody Record	tody R	(ec	ord										**********				<b>\$</b>	ur	eurofins	Su	Environment Testing	ଡ୍ବ
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Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out 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/lests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.	laces the ownership or analyzed the sa signed Chain of Cus	of method ar mples must t stody attesting	nalyte & accredit oe shipped back g to said complic	ation complian to the Eurofins ance to Eurofi	ce upor Xenco ns Xenc	OTT OF TEC IS	ubcont aborato	ract la	borato other i	ories. Instruc	This s	ample vill be	shipn provic	ent is	forwa ny ch	rded anges	unde to a	r chai ccredi	n-of-o	custoo 1 statu	us shi	the la	iborato ie brou	iry does not currently ight to Eurofins Xenco LL	ნ
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Ver: 06/08/2021

1089 N Canal St Carlsbad NM 88220 Phone 575-988-3199 F **Eurofins Xenco, Carlsbad** 

# **Chain of Custody Record**

	Custody Seals Intact. Custody Seal No	Relinquished by:	Kelinquished by	1.10 Cap 11.10.21	Empty Kit Relinquished by	Deliverable Requested   II III IV Other (specify)	Posible nazara identification Unconfirmed	Note: Since laboratory accreditations are subject to change. Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.  Described Meanured Meanurement of the property of the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.					FS10 (890-1557-10)		Sample Identification - Client ID (Lab ID)		S. G.	Project Name: PLU 78	Email	Phone 432-704-5440(Tel)	TX 79701	Midland State Zio:	1211 W Florida Ave	Europany Eurofins Xenco	Chient Contact: Shipping/Receiving	Client Information (Sub Contract Lab)	Phone 575-988-3199 Fax. 575-988-3199
		Date/Time·	Date/Time	Date/Time		Primary Deliverable Rank		) places the ownership ξ being analyzed the s the signed Chain of Cu					11/10/21	N	Sample Date		SSOW#:	Project #: 89000004	WO#	PO#:		TAT Requested (days):	11/11/2021		Phone	Sampler	
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Ver 06/08/2021		Company	Company	Company			1 month)  Months	This sample shipment is forwarded under chain-of-custody if the laboratory does not currently tions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC							pecial Instructions/Note			W pH 4-5 Z other (specify)	< c ·	⊣ or ⊼o	P NaZO4S Q NaZSO3	l	-				

# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-1557-1

SDG Number: 31403236.020.0129

Login Number: 1557 List Source: Eurofins Xenco, 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	
s 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 <a href="fam:46">&lt;6 mm (1/4").</a>	N/A	

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# **Login Sample Receipt Checklist**

Client: WSP USA Inc.

Job Number: 890-1557-1

SDG Number: 31403236.020.0129

List Source: Eurofins Xenco, Midland

List Creation: 11/11/21 11:49 AM

List Number: 2 Creator: Kramer, Jessica

Login Number: 1557

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	N/A	

<6mm (1/4").



APPENDIX E

**NMOCD Notifications** 

From: Hamlet, Robert, EMNRD

To: melanie.collins@exxonmobil.com

Cc: Enviro, OCD, EMNRD; DelawareSpills@exxonmobil.com; Cole, Aimee; Ager, Ashley; Morrissey, Tacoma; Bratcher,

Mike, EMNRD; Hensley, Chad, EMNRD; Velez, Nelson, EMNRD

Subject: (Extension Approval) XTO - PLU 78 B Salt Water Disposal / NAPP2126639352

**Date:** Friday, December 3, 2021 2:31:00 PM

Attachments: <u>image003.png</u>

RE: Incident #NAPP2126639352

#### Melanie.

Your request for an extension to **March 8th, 2022** is approved.

Robert Hamlet • Environmental Specialist - Advanced

Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us

http://www.emnrd.state.nm.us/OCD/



**From:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>

Sent: Friday, December 3, 2021 1:36 PM

To: Hamlet, Robert, EMNRD < Robert. Hamlet@state.nm.us>

Subject: FW: [EXTERNAL] XTO Extension Request - PLU 78 B Salt Water Disposal / NAPP2126639352

**From:** Collins, Melanie < melanie.collins@exxonmobil.com >

Sent: Friday, December 3, 2021 8:41 AM

To: Enviro, OCD, EMNRD < OCD. Enviro@state.nm.us >; Bratcher, Mike, EMNRD

<mike.bratcher@state.nm.us>

**Cc:** DelawareSpills /SM <<u>DelawareSpills@exxonmobil.com</u>>; Cole, Aimee <<u>Aimee.Cole@wsp.com</u>>;

Ager, Ashley <a href="Ashley.Ager@wsp.com">Ashley **Subject:** [EXTERNAL] XTO Extension Request - PLU 78 B Salt Water Disposal / NAPP2126639352

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

XTO is requesting an extension for the current 90-day deadline for submitting a remediation work

plan or closure report required in 19.15.29.12.B.(1) NMAC at the PLU 78 B Salt Water Disposal (Incident Number NAPP2126639352). The release was discovered on September 9, 2021 and initial site assessment was conducted. Remediation activities have been ongoing since October 19, 2021 and to date an estimated 540 cubic yards of impacted soil have been removed. The most recent laboratory analytical results indicate further remediation work is warranted. At this time, XTO and WSP are discussing remedial options to address remaining impacts in an effort to ensure protection of public health and the environment, while remaining compliant with XTO's safety guidelines. In order complete the remediation work, and submit a remediation work plan or closure report XTO requests a 90-day extension of this deadline until March 8, 2022.

Thank you,

Melaníe Collins

SSHE Technician

An **ExxonMobil** Subsidiary 6401 Holiday Hill Rd, Bldg 5 Midland, TX 79707 432-218-3709

# Collins, Melanie

From: Collins, Melanie

**Sent:** Friday, March 4, 2022 11:29 AM

**To:** ocd.enviro@state.nm.us; mike.bratcher@state.nm.us

Cc: DelawareSpills /SM; Cole, Aimee; Jennings, Kalei; Morrissey, Tacoma; Belill, Benjamin

**Subject:** XTO-Extension Request - PLU 78 B Salt Water Disposal / NAPP2126639352

All,

XTO is requesting an extension for the current deadline of March 8, 2022 for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC at the PLU 78 B Salt Water Disposal (Incident Number NAPP2126639352). The release was discovered on September 9, 2021 and initial site assessment was conducted. Remediation activities began in October 19, 2021. Gross impacts to soil have been removed. However, following a review of the most recent laboratory analytical results additional remediation work is needed. In order complete the remediation work, and submit a remediation work plan or closure report XTO requests a 90-day extension of this deadline until June 6, 2022.

Thank you,

Melanie Collins

SSHE Technician

An **ExxonMobil** Subsidiary 6401 Holiday Hill Rd, Bldg 5 Midland, TX 79707

432-218-3709

 Cc:
 DelawareSpills /SM; WSP-XTO-Project-Team

 Subject:
 XTO Site Activities for the Week of October 11

**Date:** Friday, October 8, 2021 4:34:18 PM

Attachments: <u>image001.png</u>

#### All,

XTO will be completing excavation and sampling activities at the following sites next week. We anticipate collecting final confirmation samples.

#### Thursday:

- PLU 28 BS 901H / nAPP2116739947
- PLU 78 B / NAPP2126639352

#### Friday:

- PLU 28 BS 901H / nAPP2116739947
- PLU 78 B / NAPP2126639352

#### Thank you,

#### **Tacoma Morrissey**

Consultant Geologist Office Manager, Midland



M+ 1 337-257-8307 WSP USA 3300 North A Street Bldg 1, Unit 222 Midland, Texas 79705

#### wsp.com

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-LAEmHhHzdJzBlTWfa4Hgs7pbKl

 Cc:
 DelawareSpills /SM; WSP-XTO-Project-Team

 Subject:
 XTO Site Activities for the Week of October 18

 Date:
 Friday, October 15, 2021 4:43:41 PM

Attachments: <u>image001.png</u>

#### All.

XTO will be completing excavation and sampling activities at the following sites next week. We anticipate collecting final confirmation samples.

#### Monday:

PLU 78 B / NAPP2126639352

#### Tuesday:

• Ross Ranch 6 (nAPP2034638293)

#### Wednesday:

- Ross Ranch 6 (nAPP2034638293)
- PLU 78 B / NAPP2126639352

### Thursday:

Ross Ranch 6 (nAPP2034638293)

#### Friday:

• Ross Ranch 6 (nAPP2034638293)

Thank you,

#### **Tacoma Morrissey**

Consultant Geologist Office Manager, Midland



M+ 1 337-257-8307 WSP USA 3300 North A Street Bldg 1, Unit 222 Midland, Texas 79705

#### wsp.com

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-LAEmHhHzdJzBlTWfa4Hgs7pbKl

Cc:DelawareSpills /SM; WSP-XTO-Project-TeamSubject:XTO Site Activities for the Week of October 25Date:Friday, October 22, 2021 3:38:50 PM

Attachments: <u>image001.png</u>

#### All,

XTO will be completing excavation and sampling activities at the following sites next week. We anticipate collecting final confirmation samples.

#### Monday:

- Ross Ranch 6 / NAPP2034638293
- PLU 78 B / NAPP2126639352

#### Tuesday:

- Ross Ranch 6 / NAPP2034638293
- PLU 78 B / NAPP2126639352

#### Wednesday:

- Ross Ranch 6 / NAPP2034638293
- PLU 78 B / NAPP2126639352

#### Thursday:

• Ross Ranch 6 / NAPP2034638293

#### Friday:

Ross Ranch 6 / NAPP2034638293

#### Thank you,

#### **Tacoma Morrissey**

Consultant Geologist Office Manager, Midland



M+ 1 337-257-8307 WSP USA 3300 North A Street Bldg 1, Unit 222 Midland, Texas 79705

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-LAEmHhHzdJzBITWfa4Hgs7pbKI

Cc: DelawareSpills /SM; WSP-XTO-Project-Team
Subject: XTO Site Activities for the Week of Nov 29
Date: Wednesday, November 24, 2021 3:32:27 PM

Attachments: <u>image001.png</u>

#### All.

XTO will be completing excavation and sampling activities at the following sites next week. We anticipate collecting final confirmation samples.

#### Tuesday:

PLU 78 B / NAPP2126639352

#### Wednesday:

• \*PLU 30 107H / nAPP2126639352

#### Thursday:

Ross Ranch 6 (nAPP2034638293)

#### Friday:

• Ross Ranch 6 (nAPP2034638293)

Thank you and have a Happy Thanksgiving,

#### **Tacoma Morrissey**

Consultant Geologist Office Manager, Midland



M+ 1 337-257-8307 WSP USA 3300 North A Street Bldg 1, Unit 222 Midland, Texas 79705

#### wsp.com

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-LAEmHhHzdJzBlTWfa4Hgs7pbKl

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 114168

#### **CONDITIONS**

Operator:	OGRID:	
XTO ENERGY, INC	5380	
6401 Holiday Hill Road	Action Number:	
Midland, TX 79707	114168	
	Action Type:	
	[C-141] Release Corrective Action (C-141)	

#### CONDITIONS

Created	Condition	Condition
Ву		Date
jnobui	Remediation Plan Approved. Please submit a Deferral Request after implementing the Remediation Plan.	8/22/2022