ENSOLUM

July 11, 2022

District 1
New Mexico Oil Conservation Division
1625 North French Drive
Hobbs, New Mexico 88240

Re: Closure Request
MCA 308
Incident Number NAPP2202535435
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of Maverick Natural Resources, LLC (Maverick), has prepared this Closure Request to document site assessment, excavation, and soil sampling activities performed at the MCA 308 (Site). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release of crude oil and produced water within the pasture area at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, Maverick is submitting this Closure Request, describing remediation that has occurred and requesting closure for Incident Number NAPP2202535435.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit G, Section 29, Township 17 South, Range 32 East, in Lea County, New Mexico (32.8075° N, 103.785556°W) and is associated with oil and gas exploration and production operations on New Mexico Bureau of Land Management (BLM).

On January 10, 2022, a leak from a stuffing box resulted in the release of approximately 6.5 barrels (bbls) of produced water and 0.35 bbls of crude oil onto the surface of the well pad and into the surrounding pasture. Released fluids were not recovered. The previous operator, ConocoPhillips Company, reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on January 25, 2022. The release was assigned Incident Number NAPP2202535435.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be between 50 feet and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well RA-12020-POD1,

located approximately 0.7 miles northeast of the Site. The groundwater well has a reported depth to groundwater of 81 feet bgs and a total depth of 120 feet bgs. The Site is located on the west flank of Mescalero Ridge. Topography falls steeply off of the caprock and begins to flatten toward the Querecho Plains. Groundwater wells show a clear trend of deeper water (greater than 100 feet bgs) on and near the top of the caprock with a gradual shallowing pattern toward the flatter plains where groundwater is consistently between 50 and 100 feet bgs (Figure 1). Documented depth to water along the caprock range from 130 feet bgs to 202 feet bgs. Groundwater wells at lower elevations on the plains east of the Site document depth to groundwater ranging between 75 feet bgs and 124 feet bgs. Depth to groundwater at the Site likely falls somewhere between this range. Nowhere within 3 miles of the Site has documented groundwater shallower than 50 feet bgs and there are no surface features, such as watercourses, ponds, wetlands, or vegetation indicative of shallow groundwater. The Site is not located in a known karst area, lowering the possibility of voids and conduits for storage of shallow groundwater. Based on the number of wells from the Site, a consistent pattern of depth to groundwater that corresponds to topography and, therefore, underlying geology, and the location along the flank of Mescalero Ridge, it is evident that groundwater is deep and a conservative estimate of between 50 and 100 feet bgs is estimated. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 2,389 feet southwest 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 TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied 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.

DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On March 7, 2022, personnel were at the Site to complete site assessment and delineation activities based on information provided on the Form C-141 and visible surface staining observed in the pasture release area. Four lateral delineation soil samples (SS01 through SS04) were collected around the release extent at a depth of 0.5 feet bgs to confirm the lateral extent of the release.

Additionally, four boreholes were advanced (BH01 through BH04) via hand auger to depths ranging from 3.5 feet bgs to 5 feet bgs to assess for the presence or absence of impacted soil. Delineation soil samples were collected from each of the boreholes at depths ranging from 1 foot bgs to 5 feet bgs. The delineation soil samples were field screened for volatile aromatic hydrocarbons utilizing a calibrated

photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Appendix B. The release extent and delineation 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 visit and a photographic log is included in Appendix C.

The delineation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-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 lateral delineation soil samples SS01 through SS04 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the reclamation requirement. Laboratory analytical results for delineation soil samples from boreholes BH01 through BH04 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for BH04 exceeded the reclamation requirement in the top 4 feet of the pasture area that was impacted by the release, thus excavation activities were warranted. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between June 27, 2022 and July 6, 2022, Ensolum personnel were onsite to oversee excavation activities based on surface staining observed in the pasture release area and laboratory analytical results for BH04. Waste-containing soil was excavated from the release area as indicated by visible staining, field screening activities, and laboratory analytical results. Excavation activities were performed via hand shoveling, back-hoe, and hydrovac. To direct excavation activities, soil was field screened for volatile aromatic hydrocarbons and chloride. The excavation was completed to depths ranging from 2.5 feet to 4 feet bgs. Photographic documentation is included in Appendix C.

Following removal of waste-containing soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls 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 soil samples FS01 through FS16 were collected from the floor of the excavation at depths ranging from 2.5 feet to 4 feet bgs. Composite soil samples SW01 through SW08 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 3,167 square feet in areal extent. A total of approximately 470 cubic yards of waste-containing soil was removed during the excavation activities. The soil was transported and properly disposed of at the R360 Disposal Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

Laboratory analytical results for excavation floor samples FS01 through FS10, FS12 through FS14 and excavation sidewall samples SW01 through SW08 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the reclamation requirements. Excavation floor samples FS11, FS15, and FS16, collected at 4 feet bgs indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with

the Site Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the January 10, 2022, release of produced water and crude oil. Laboratory analytical results for the excavation soil samples indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Excavation floor samples FS01 through FS10, FS12 through FS14 and excavation sidewall samples SW01 through SW08 are compliant with the reclamation requirements. Based on the soil sample analytical results, no further remediation was required. Maverick will backfill the excavation with material purchased locally and recontoured the Site to match pre-existing site conditions. The disturbed pasture area will be re-seeded with an approved BLM seed mixture.

Excavation of waste-containing soil supported efforts to reclaim this Site following the January 2022 release. Depth to groundwater has been estimated to be greater than 50 feet bgs and no sensitive receptors were identified near the release extent. Maverick believes these remedial actions are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAPP2202535435. The Final C-141 is included in Appendix E.

If you have any questions or comments, please contact Ms. Kalei Jennings at (817) 683-2503 or kjennings@ensolum.com.

Sincerely,
Ensolum, LLC

Kalei Jennings
Senior Scientist

Daniel R. Moir, P.G.
Senior Managing Geologist

cc: Thomas Haigood, Maverick Natural Resources
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	Lithologic / Soil Sampling Logs
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	Final C-141
Appendix F	NMOCD Notifications

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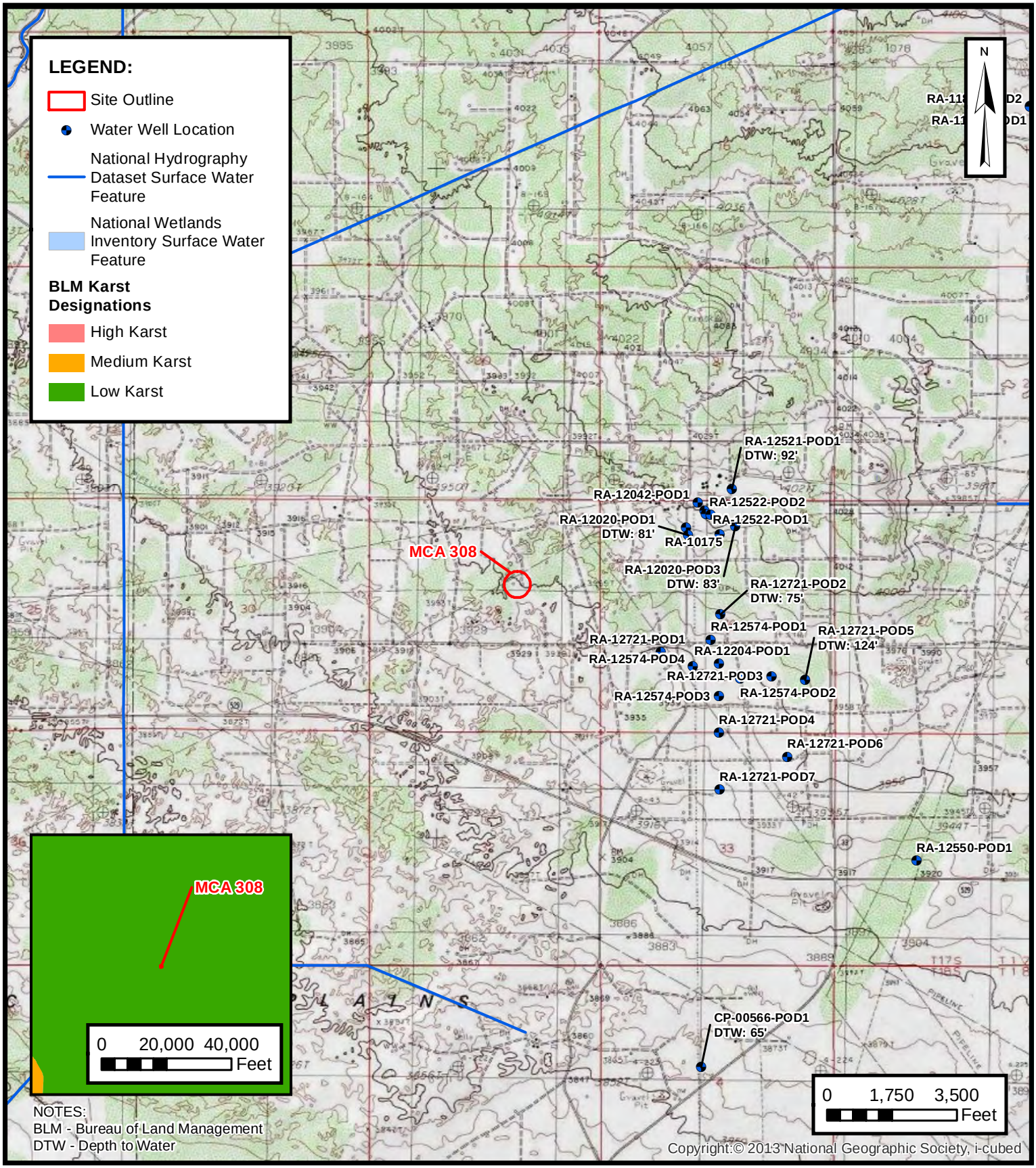
FIGURES



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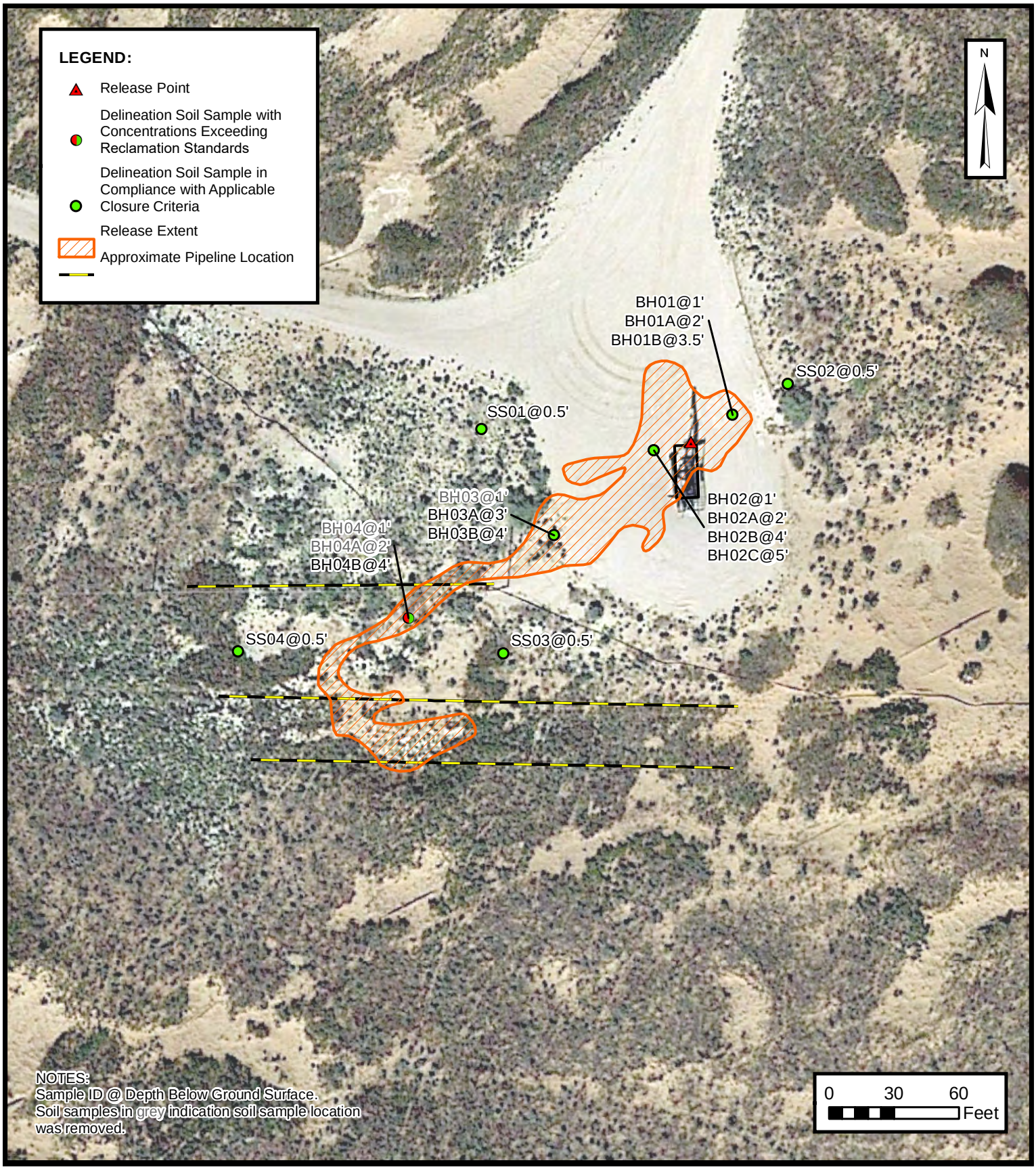
Environmental & Hydrogeologic Consultants

SITE RECEPTOR MAP

MAVERICK NATURAL RESOURCES, LLC
MCA 308
NAPP2202535435
Unit G, Sec 29, T17S, R32E
Lea County, New Mexico

FIGURE
1



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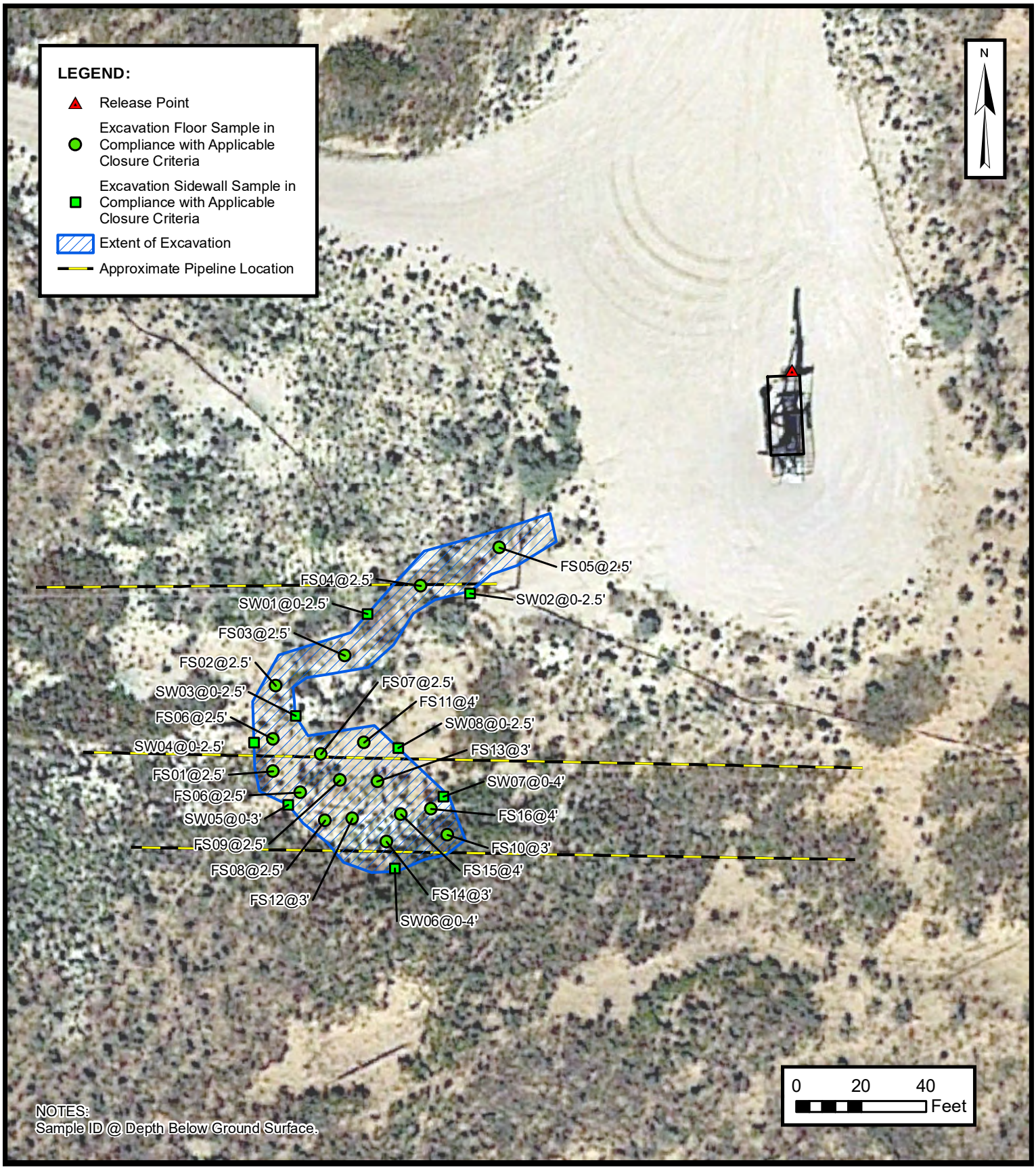
DELINEATION SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
MCA 308
NAPP2202535435
Unit G, Sec 29, T17S, R32E
Lea County, New Mexico

FIGURE
2



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EXCAVATION SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
MCA 308
NAPP2202535435
Unit G, Sec 29, T17S, R32E
Lea County, New Mexico

FIGURE
3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
MCA 308
Maverick Natural Resources, LLC
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	10,000
Preliminary Assessment Soil Samples										
SS01	03/07/2022	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	5.14
SS02	03/07/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	<5.00
SS03	03/07/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	<4.95
SS04	03/07/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	<5.04
Delineation Soil Samples										
BH01	03/07/2022	1	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	795
BH01A	03/07/2022	2	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	132
BH01B	03/07/2022	3.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	98
BH02	03/07/2022	1	<0.100	<0.201	<49.9	538	85.8	538	624	182
BH02A	03/07/2022	2	<0.100	<0.200	85.9	835	146	920	1,066	877
BH02B	03/07/2022	4	<0.100	<0.201	<50.0	146	51	146	197	222
BH02C	03/07/2022	5	<0.00198	<0.00397	<49.9	115	<49.9	115	115	189
BH03	03/07/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	12.8*
BH03A	03/07/2022	3	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	17.1*
BH03B	03/07/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	39.3
BH04	03/07/2022	1	0.0305	0.0762	<49.9	342	51	342	393	248*
BH04A	03/07/2022	2	<0.00198	0.0346	<49.9	275	<49.9	275	275	151*
BH04B	03/07/2022	4	<0.00200	<0.00399	<50.0	96.6	<50.0	96.6	96.6	26.2
Excavation Floor Soil Samples										
FS01	06/27/2022	2.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	23.4*
FS02	06/27/2022	2.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	25.6*
FS03	06/27/2022	2.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	69.1*
FS04	06/27/2022	2.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	32.6*
FS05	06/28/2022	2.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	15.6*
FS06	06/28/2022	2.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	9.55*
FS07	06/28/2022	2.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	9.85*
FS08	06/28/2022	2.5	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	<49.8	99.8*
FS09	06/28/2022	2.5	<0.00200	<0.00401	<49.8	<50.0	<50.0	<50.0	<50.0	12.2*
FS10	07/05/2022	3	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	10.8*

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
MCA 308
Maverick Natural Resources, LLC
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**	**10,000**
FS11	06/28/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	1,090
FS12	07/05/2022	3	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	27.1*
FS13	07/05/2022	3	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	11.6*
FS14	07/05/2022	3	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	15.3*
FS15	07/05/2022	4	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	1,270
FS16	07/05/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,480
Excavation Sidewall Soil Samples										
SW01	06/27/2022	0 - 2.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	18.0*
SW02	06/28/2022	0 - 2.5	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	26.6*
SW03	06/28/2022	0 - 2.5	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	13.5*
SW04	06/28/2022	0 - 2.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	22.4*
SW05	07/06/2022	0 - 3	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	9.63*
SW06	07/06/2022	0 - 4	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	19.5*
SW07	07/06/2022	0 - 4	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	9.49*
SW08	06/28/2022	0 - 2.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	12.0*

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
* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard for chloride in the top 4 feet is 600 mg/kg
Grey text represents samples that have been excavated

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APPENDIX A

Referenced Well Records

New Mexico Office of the State Engineer

Water Right Summary

get image list

WR File Number: RA 12020 **Subbasin:** RA **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: PHILLIPS 66 COMPANY

Contact: TOM WYNN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	534328	EXPL	2013-09-20	PMT	LOG	RA 12020	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
RA 12020 POD1		Shallow	2	2	1	28	17S	32E	614828	3630954	MW-21
RA 12020 POD2			3	1	2	28	17S	32E	615046	3630960	
RA 12020 POD3		Shallow	2	1	2	28	17S	32E	615152	3631019	MW-23

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	RA 12020 POD1	2	2	1	28	17S	32E	614828	3630954

Driller License: 1456 **Driller Company:** WHITE DRILLING COMPANY

Driller Name: WHITE, JOHN (LD)

Drill Start Date: 09/24/2013 **Drill Finish Date:** 09/25/2013 **Plug Date:**

Log File Date: 10/07/2013 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 2.00 **Depth Well:** 120 feet **Depth Water:** 81 feet

Water Bearing Stratifications:	Top	Bottom	Description
	70	111	Sandstone/Gravel/Conglomerate
	111	120	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	75	110

National Water Information System: Web Interface

USGS Water Resources (Cooperator Access)

Data Category: Site Information GO | Geographic Area: United States GO

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

USGS 324512103455001 18S.32E.16.223433

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:
Latitude 32°45'12", Longitude 103°45'50" NAD27
Lea County, New Mexico , Hydrologic Unit 12080003
Well depth: 100 feet
Land surface altitude: 3,800 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1991-09-06	1991-10-17	6
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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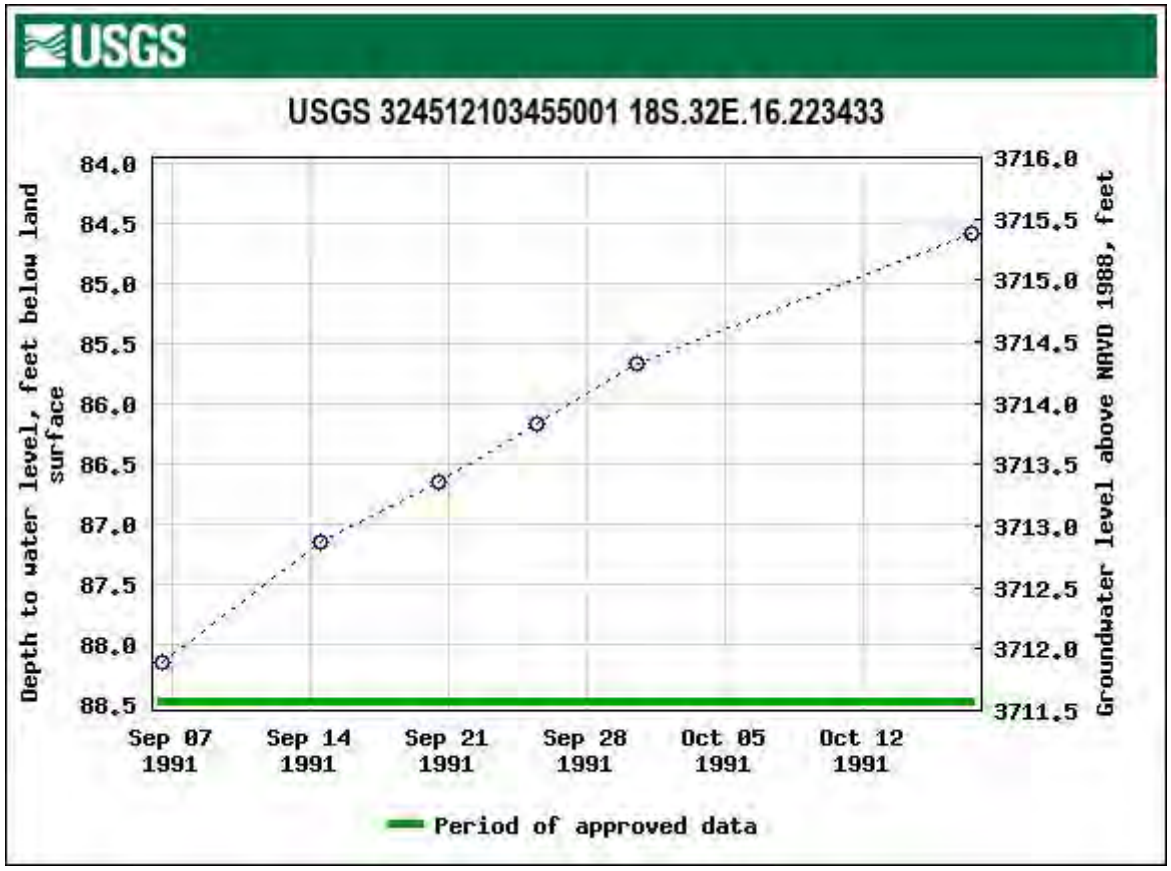
Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=324512103455001

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2022-02-23 14:49:59 EST
0.26 0.25 sdww01


USGS
USGS 324512103455001 18S.32E.16.223433
Depth to water level, feet below land surface
84.0
84.5
85.0
85.5
86.0
86.5
87.0
87.5
88.0
88.5
Groundwater level above NAVD 1988, feet
3716.0
3715.5
3715.0
3714.5
3714.0
3713.5
3713.0
3712.5
3712.0
3711.5
Sep 07 1991
Sep 14 1991
Sep 21 1991
Sep 28 1991
Oct 05 1991
Oct 12 1991
Period of approved data

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APPENDIX B

Lithologic Soil Sampling Logs

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	Sample Name: BH01	Date: **03/07/2022**
	Site Name: **MCA 308**	
	Incident Number: **NAPP2202535435**	
	Job Number: **31403720.000 Task 34.02**	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: HG	Method: Hand Auger
Coordinates: **32.807707, -103.785859**	Hole Diameter: 3"	Total Depth: 3.5'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	4,945	7.4	N			0.5	CCHE	CALICHE, dry, light brown, abundant sand and caliche gravel, fine grained, moderate sorting, nonplastic, noncohesive, no stain, no odor.
D	1,657	0.5	N	BH01	1	1	CHHE	SAA, less caliche gravel
M	268.8	0.3	N	BH01A	2	2	SM	SAND, reddish brown, moist, no caliche gravel, abundant silt, well sorted, no stain, no odor.
M	823.2	0.2	N			3	SM	SAA
M	235.2	0.2	N	BH01B	3.5	3.5	SM	SAA

TD @ 3.5 feet bgs

ENSOLUM

	Sample Name: **BH02**	Date: **03/07/2022**
	Site Name: **MCA 308**	
	Incident Number: **NAPP2202535435**	
	Job Number: **31403720.000 Task 34.02**	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: HG	Method: Hand Auger
Coordinates: **32.807707, -103.785859**	Hole Diameter: 3"	Total Depth: 6'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	901.6	210.5	N			0.5	SM	SAND, dry, brown-reddish brown, abundant silt, trace caliche gravel, moderate sorting, well graded, fine grain, nonplastic, noncohesive, no stain, strong HC odor.
D	683.2	109.7	N	BH02	1	1	SM	SAA
D	2,111	231.8	N	BH02A	2	2	SM	SAA
D	448	133.7	N			3	SM	SAA
D	397.6	102.2	N	BH02B	4	4	SM	SAA
D	352.8	34.7	N	BH02C		5	SM	SAA
D	560	63.8	N			6	SM	SAA, slight HC ordor.

TD @ 6 feet bgs

ENSOLUM

	Sample Name: **BH03**	Date: **03/07/2022**
	Site Name: **MCA 308**	
	Incident Number: **NAPP2202535435**	
	Job Number: **31403720.000 Task 34.02**	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: HG	Method: Hand Auger
Coordinates: **32.807510, -103.786020**	Hole Diameter: 3"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	<168	6	N			0.5	CCHE	CALICHE, dry, white, abundant silt and caliche gravel, poorly sorted, fine grain, nonplastic, no stain, slight HC odor.
D	<168	29.2	N	BH03	1	1	CCHE	SAA, less caliche gravel.
D	<168	13.3	N			2	SM	SAND, dry, abundant silt, some gravel, reddish brown, moderate sorting, fine grain, nonplastic, no stain, no odor.
D	<168	9.3	N	BH03A	3	3	SM	SAA
D	<168	9.1	N	BH03B	4	4	SM	SAA

TD @ 4 feet bgs

ENSOLUM

	Sample Name: **BH04**	Date: **03/07/2022**
	Site Name: **MCA 308**	
	Incident Number: **NAPP2202535435**	
	Job Number: **31403720.000 Task 34.02**	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: HG	Method: Hand Auger
Coordinates: **32.8074969, -103.7861424**	Hole Diameter: 3"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	9,906	1,438	N			0.5	SM	SAND, dry, reddish brown, abundant silt, trace caliche gravel, moderate sorting, fine grain, nonplastic, noncohesive, no stain, strong HC odor.
D	621.6	411.7	N	BH04	1	1	SM	SAA, no caliche gravel.
D	201.6	380.1	N			2	SM	SAA
D	448	383.7	N	BH04A	3	3	SM	SAA
D	<168	76.0	N	BHO4B	4	4	SM	SAA

TD @ 4 feet bgs

ENSOLUM

APPENDIX C

Photographic Log

ENSOLUM

Photographic Log
Maverick Natural Resources, LLC
MCA 308
Incident Number NAPP2202535435

Photograph 1
Date: March 7, 2022
Description: Photo of initial release taken during delineation.

Photograph 2
Date: March 7, 2022
Description: Photo of BH04 taken during delineation activities.

Photograph 3
Date: July 6, 2022
Description: Photo of excavation completed in the pasture.

Photograph 4
Date: July 6, 2022
Description: Photo of excavation completed in the pasture.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2502-1
Laboratory Sample Delivery Group: 03D20570004
Client Project/Site: MCA 308

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
7/8/2022 2:18:12 PM

Jessica Kramer, Project Manager
(432)704-5440
Jessica.Kramer@et.eurofinsus.com

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

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

Client: Ensolum
Project/Site: MCA 308

Laboratory Job ID: 890-2502-1
SDG: 03D20570004

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Qualifiers

GC VOA

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Job ID: 890-2502-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2502-1

Receipt
The samples were received on 7/6/2022 8:11 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 2.4°C

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Client Sample ID: FS10

Date Collected: 07/05/22 15:05
Date Received: 07/06/22 08:11
Sample Depth: 3

Lab Sample ID: 890-2502-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		07/07/22 10:17	07/07/22 14:01	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/07/22 10:17	07/07/22 14:01	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		07/07/22 10:17	07/07/22 14:01	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		07/07/22 10:17	07/07/22 14:01	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/07/22 10:17	07/07/22 14:01	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/07/22 10:17	07/07/22 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*07/07/22 10:17*	*07/07/22 14:01*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*07/07/22 10:17*	*07/07/22 14:01*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			07/08/22 15:11	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			07/08/22 09:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/07/22 09:20	07/07/22 18:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/07/22 09:20	07/07/22 18:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/07/22 09:20	07/07/22 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*07/07/22 09:20*	*07/07/22 18:22*	*1*
o-Terphenyl	*89*		*70 - 130*	*07/07/22 09:20*	*07/07/22 18:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.8**		4.98		mg/Kg			07/07/22 13:14	1

Client Sample ID: FS12

Date Collected: 07/05/22 15:10
Date Received: 07/06/22 08:11
Sample Depth: 3

Lab Sample ID: 890-2502-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/07/22 10:17	07/07/22 14:22	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/07/22 10:17	07/07/22 14:22	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/07/22 10:17	07/07/22 14:22	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/07/22 10:17	07/07/22 14:22	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/07/22 10:17	07/07/22 14:22	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/07/22 10:17	07/07/22 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*07/07/22 10:17*	*07/07/22 14:22*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Client Sample ID: FS12

Date Collected: 07/05/22 15:10
Date Received: 07/06/22 08:11
Sample Depth: 3

Lab Sample ID: 890-2502-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*07/07/22 10:17*	*07/07/22 14:22*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			07/08/22 15:11	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			07/08/22 09:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		07/07/22 09:20	07/07/22 18:44	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		07/07/22 09:20	07/07/22 18:44	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		07/07/22 09:20	07/07/22 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*07/07/22 09:20*	*07/07/22 18:44*	*1*
o-Terphenyl	*93*		*70 - 130*	*07/07/22 09:20*	*07/07/22 18:44*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**27.1**		5.00	mg/Kg			07/07/22 13:38	1

Client Sample ID: FS13

Date Collected: 07/05/22 15:15
Date Received: 07/06/22 08:11
Sample Depth: 3

Lab Sample ID: 890-2502-3

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/07/22 10:17	07/07/22 14:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/07/22 10:17	07/07/22 14:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/07/22 10:17	07/07/22 14:42	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		07/07/22 10:17	07/07/22 14:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/07/22 10:17	07/07/22 14:42	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		07/07/22 10:17	07/07/22 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*07/07/22 10:17*	*07/07/22 14:42*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*07/07/22 10:17*	*07/07/22 14:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			07/08/22 15:11	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			07/08/22 09:27	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Client Sample ID: FS13

Lab Sample ID: 890-2502-3
Matrix: Solid
Date Collected: 07/05/22 15:15
Date Received: 07/06/22 08:11
Sample Depth: 3

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/07/22 09:20	07/07/22 19:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/07/22 09:20	07/07/22 19:05	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/07/22 09:20	07/07/22 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*07/07/22 09:20*	*07/07/22 19:05*	*1*
o-Terphenyl	*95*		*70 - 130*	*07/07/22 09:20*	*07/07/22 19:05*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.6**		4.99		mg/Kg			07/07/22 13:46	1

Client Sample ID: FS14

Lab Sample ID: 890-2502-4
Matrix: Solid
Date Collected: 07/05/22 15:30
Date Received: 07/06/22 08:11
Sample Depth: 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 15:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 15:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 15:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/07/22 10:17	07/07/22 15:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 15:03	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/07/22 10:17	07/07/22 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*07/07/22 10:17*	*07/07/22 15:03*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*07/07/22 10:17*	*07/07/22 15:03*	*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			07/08/22 15:11	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			07/08/22 09:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/07/22 09:20	07/07/22 19:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/07/22 09:20	07/07/22 19:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/07/22 09:20	07/07/22 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*07/07/22 09:20*	*07/07/22 19:27*	*1*
o-Terphenyl	*98*		*70 - 130*	*07/07/22 09:20*	*07/07/22 19:27*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Client Sample ID: FS14

Lab Sample ID: 890-2502-4
Matrix: Solid
Date Collected: 07/05/22 15:30
Date Received: 07/06/22 08:11
Sample Depth: 3

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.3		4.95		mg/Kg			07/07/22 13:54	1

Client Sample ID: FS15

Lab Sample ID: 890-2502-5
Matrix: Solid
Date Collected: 07/05/22 16:00
Date Received: 07/06/22 08:11
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		07/07/22 10:17	07/07/22 15:23	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/07/22 10:17	07/07/22 15:23	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/07/22 10:17	07/07/22 15:23	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/07/22 10:17	07/07/22 15:23	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/07/22 10:17	07/07/22 15:23	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/07/22 10:17	07/07/22 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*07/07/22 10:17*	*07/07/22 15:23*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*07/07/22 10:17*	*07/07/22 15:23*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			07/08/22 15:11	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			07/08/22 09:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/07/22 09:35	07/07/22 15:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/07/22 09:35	07/07/22 15:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/07/22 09:35	07/07/22 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*07/07/22 09:35*	*07/07/22 15:21*	*1*
o-Terphenyl	*104*		*70 - 130*	*07/07/22 09:35*	*07/07/22 15:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1270		4.97		mg/Kg			07/07/22 14:01	1

Surrogate Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16557-A-5-E MS	Matrix Spike	111	103
880-16557-A-5-F MSD	Matrix Spike Duplicate	108	98
890-2502-1	FS10	114	97
890-2502-2	FS12	114	100
890-2502-3	FS13	112	92
890-2502-4	FS14	118	104
890-2502-5	FS15	120	100
LCS 880-29191/1-A	Lab Control Sample	105	100
LCSD 880-29191/2-A	Lab Control Sample Dup	109	97
MB 880-29191/5-A	Method Blank	103	99

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16646-A-1-B MS	Matrix Spike	104	102
880-16646-A-1-C MSD	Matrix Spike Duplicate	109	108
890-2502-1	FS10	83	89
890-2502-2	FS12	86	93
890-2502-3	FS13	88	95
890-2502-4	FS14	90	98
890-2502-5	FS15	100	104
890-2507-A-1-F MS	Matrix Spike	115	115
890-2507-A-1-G MSD	Matrix Spike Duplicate	116	116
LCS 880-29181/2-A	Lab Control Sample	101	103
LCS 880-29183/2-A	Lab Control Sample	124	136 S1+
LCSD 880-29181/3-A	Lab Control Sample Dup	100	104
LCSD 880-29183/3-A	Lab Control Sample Dup	105	109
MB 880-29181/1-A	Method Blank	97	115
MB 880-29183/1-A	Method Blank	114	128

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29191/5-A
Matrix: Solid
Analysis Batch: 29173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29191

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/07/22 10:17	07/07/22 12:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*07/07/22 10:17*	*07/07/22 12:31*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*07/07/22 10:17*	*07/07/22 12:31*	*1*

Lab Sample ID: LCS 880-29191/1-A
Matrix: Solid
Analysis Batch: 29173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29191

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09870		mg/Kg		99	70 - 130		
Toluene			0.100	0.1043		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.08958		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene			0.200	0.1825		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.1042		mg/Kg		104	70 - 130		

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

Lab Sample ID: LCSD 880-29191/2-A
Matrix: Solid
Analysis Batch: 29173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29191

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09476		mg/Kg		95	70 - 130	4	35
Toluene			0.100	0.1077		mg/Kg		108	70 - 130	3	35
Ethylbenzene			0.100	0.09471		mg/Kg		95	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.1942		mg/Kg		97	70 - 130	6	35
o-Xylene			0.100	0.1100		mg/Kg		110	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-16557-A-5-E MS
Matrix: Solid
Analysis Batch: 29173

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29191

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.09714		mg/Kg		96	70 - 130		
Toluene	<0.00199	U	0.101	0.1018		mg/Kg		101	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

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

Lab Sample ID: 880-16557-A-5-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29173 — **Prep Batch: 29191**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.08591		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1763		mg/Kg		87	70 - 130
o-Xylene	<0.00199	U	0.101	0.09959		mg/Kg		99	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-16557-A-5-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29173 — **Prep Batch: 29191**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.09385		mg/Kg		94	70 - 130	3	35
Toluene	<0.00199	U	0.100	0.1051		mg/Kg		105	70 - 130	3	35
Ethylbenzene	<0.00199	U	0.100	0.09028		mg/Kg		90	70 - 130	5	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1853		mg/Kg		92	70 - 130	5	35
o-Xylene	<0.00199	U	0.100	0.1044		mg/Kg		104	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-29181/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29163 — **Prep Batch: 29181**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/07/22 09:20	07/07/22 11:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/07/22 09:20	07/07/22 11:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/07/22 09:20	07/07/22 11:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*07/07/22 09:20*	*07/07/22 11:43*	*1*
o-Terphenyl	*115*		*70 - 130*	*07/07/22 09:20*	*07/07/22 11:43*	*1*

Lab Sample ID: LCS 880-29181/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29163 — **Prep Batch: 29181**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	773.3		mg/Kg		77	70 - 130
Diesel Range Organics (Over C10-C28)			1000	986.5		mg/Kg		99	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

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

Lab Sample ID: LCS 880-29181/2-A
Matrix: Solid
Analysis Batch: 29163

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29181

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

Lab Sample ID: LCSD 880-29181/3-A
Matrix: Solid
Analysis Batch: 29163

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29181

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	767.7		mg/Kg		77	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1004		mg/Kg		100	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: 880-16646-A-1-B MS
Matrix: Solid
Analysis Batch: 29163

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29181

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	963.7		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	996	967.3		mg/Kg		95	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 880-16646-A-1-C MSD
Matrix: Solid
Analysis Batch: 29163

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29181

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	995	1073		mg/Kg		108	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<49.9	U	995	1016		mg/Kg		100	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	108		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

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

Lab Sample ID: MB 880-29183/1-A
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29183

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/07/22 09:35	07/07/22 10:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/07/22 09:35	07/07/22 10:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/07/22 09:35	07/07/22 10:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*07/07/22 09:35*	*07/07/22 10:03*	*1*
o-Terphenyl	*128*		*70 - 130*	*07/07/22 09:35*	*07/07/22 10:03*	*1*

Lab Sample ID: LCS 880-29183/2-A
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29183

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1136		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1143		mg/Kg		114	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*136*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-29183/3-A
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29183

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1093		mg/Kg		109	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1022		mg/Kg		102	70 - 130	11	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*109*		*70 - 130*

Lab Sample ID: 890-2507-A-1-F MS
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29183

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	997	1311	F1	mg/Kg		132	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1006		mg/Kg		101	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

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

Lab Sample ID: 890-2507-A-1-F MS
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29183

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

Lab Sample ID: 890-2507-A-1-G MSD
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29183

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	996	1172		mg/Kg		118	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<50.0	U	996	1003		mg/Kg		101	70 - 130	0	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29202/1-A
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/07/22 12:51	1

Lab Sample ID: LCS 880-29202/2-A
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	232.5		mg/Kg		93	90 - 110		

Lab Sample ID: LCSD 880-29202/3-A
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	234.3		mg/Kg		94	90 - 110	1	20

Lab Sample ID: 890-2502-1 MS
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: FS10
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	10.8		249	259.5		mg/Kg		100	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2502-1 MSD
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: FS10
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.8		249	260.1		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

GC VOA

Analysis Batch: 29173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-1	FS10	Total/NA	Solid	8021B	29191
890-2502-2	FS12	Total/NA	Solid	8021B	29191
890-2502-3	FS13	Total/NA	Solid	8021B	29191
890-2502-4	FS14	Total/NA	Solid	8021B	29191
890-2502-5	FS15	Total/NA	Solid	8021B	29191
MB 880-29191/5-A	Method Blank	Total/NA	Solid	8021B	29191
LCS 880-29191/1-A	Lab Control Sample	Total/NA	Solid	8021B	29191
LCSD 880-29191/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29191
880-16557-A-5-E MS	Matrix Spike	Total/NA	Solid	8021B	29191
880-16557-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	29191

Prep Batch: 29191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-1	FS10	Total/NA	Solid	5035	
890-2502-2	FS12	Total/NA	Solid	5035	
890-2502-3	FS13	Total/NA	Solid	5035	
890-2502-4	FS14	Total/NA	Solid	5035	
890-2502-5	FS15	Total/NA	Solid	5035	
MB 880-29191/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29191/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29191/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16557-A-5-E MS	Matrix Spike	Total/NA	Solid	5035	
880-16557-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 29326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-1	FS10	Total/NA	Solid	Total BTEX	
890-2502-2	FS12	Total/NA	Solid	Total BTEX	
890-2502-3	FS13	Total/NA	Solid	Total BTEX	
890-2502-4	FS14	Total/NA	Solid	Total BTEX	
890-2502-5	FS15	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 29163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-1	FS10	Total/NA	Solid	8015B NM	29181
890-2502-2	FS12	Total/NA	Solid	8015B NM	29181
890-2502-3	FS13	Total/NA	Solid	8015B NM	29181
890-2502-4	FS14	Total/NA	Solid	8015B NM	29181
MB 880-29181/1-A	Method Blank	Total/NA	Solid	8015B NM	29181
LCS 880-29181/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29181
LCSD 880-29181/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29181
880-16646-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	29181
880-16646-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	29181

Analysis Batch: 29167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-5	FS15	Total/NA	Solid	8015B NM	29183
MB 880-29183/1-A	Method Blank	Total/NA	Solid	8015B NM	29183
LCS 880-29183/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29183

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

GC Semi VOA (Continued)

Analysis Batch: 29167 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-29183/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29183
890-2507-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	29183
890-2507-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	29183

Prep Batch: 29181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-1	FS10	Total/NA	Solid	8015NM Prep	
890-2502-2	FS12	Total/NA	Solid	8015NM Prep	
890-2502-3	FS13	Total/NA	Solid	8015NM Prep	
890-2502-4	FS14	Total/NA	Solid	8015NM Prep	
MB 880-29181/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29181/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29181/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-16646-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-16646-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 29183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-5	FS15	Total/NA	Solid	8015NM Prep	
MB 880-29183/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29183/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29183/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2507-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2507-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 29267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-1	FS10	Total/NA	Solid	8015 NM	
890-2502-2	FS12	Total/NA	Solid	8015 NM	
890-2502-3	FS13	Total/NA	Solid	8015 NM	
890-2502-4	FS14	Total/NA	Solid	8015 NM	
890-2502-5	FS15	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-1	FS10	Soluble	Solid	DI Leach	
890-2502-2	FS12	Soluble	Solid	DI Leach	
890-2502-3	FS13	Soluble	Solid	DI Leach	
890-2502-4	FS14	Soluble	Solid	DI Leach	
890-2502-5	FS15	Soluble	Solid	DI Leach	
MB 880-29202/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29202/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29202/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2502-1 MS	FS10	Soluble	Solid	DI Leach	
890-2502-1 MSD	FS10	Soluble	Solid	DI Leach	

Analysis Batch: 29209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-1	FS10	Soluble	Solid	300.0	29202

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

HPLC/IC (Continued)

Analysis Batch: 29209 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2502-2	FS12	Soluble	Solid	300.0	29202
890-2502-3	FS13	Soluble	Solid	300.0	29202
890-2502-4	FS14	Soluble	Solid	300.0	29202
890-2502-5	FS15	Soluble	Solid	300.0	29202
MB 880-29202/1-A	Method Blank	Soluble	Solid	300.0	29202
LCS 880-29202/2-A	Lab Control Sample	Soluble	Solid	300.0	29202
LCSD 880-29202/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29202
890-2502-1 MS	FS10	Soluble	Solid	300.0	29202
890-2502-1 MSD	FS10	Soluble	Solid	300.0	29202

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Client Sample ID: FS10

Date Collected: 07/05/22 15:05
Date Received: 07/06/22 08:11

Lab Sample ID: 890-2502-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	29191	07/07/22 10:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29173	07/07/22 14:01	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29326	07/08/22 15:11	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			29267	07/08/22 09:27	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	29181	07/07/22 09:20	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29163	07/07/22 18:22	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	29202	07/07/22 11:31	SMC	XEN MID
Soluble	Analysis	300.0		1			29209	07/07/22 13:14	CH	XEN MID

Client Sample ID: FS12

Date Collected: 07/05/22 15:10
Date Received: 07/06/22 08:11

Lab Sample ID: 890-2502-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	29191	07/07/22 10:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29173	07/07/22 14:22	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29326	07/08/22 15:11	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			29267	07/08/22 09:27	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	29181	07/07/22 09:20	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29163	07/07/22 18:44	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	29202	07/07/22 11:31	SMC	XEN MID
Soluble	Analysis	300.0		1			29209	07/07/22 13:38	CH	XEN MID

Client Sample ID: FS13

Date Collected: 07/05/22 15:15
Date Received: 07/06/22 08:11

Lab Sample ID: 890-2502-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	29191	07/07/22 10:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29173	07/07/22 14:42	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29326	07/08/22 15:11	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			29267	07/08/22 09:27	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	29181	07/07/22 09:20	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29163	07/07/22 19:05	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	29202	07/07/22 11:31	SMC	XEN MID
Soluble	Analysis	300.0		1			29209	07/07/22 13:46	CH	XEN MID

Client Sample ID: FS14

Date Collected: 07/05/22 15:30
Date Received: 07/06/22 08:11

Lab Sample ID: 890-2502-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	29191	07/07/22 10:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29173	07/07/22 15:03	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29326	07/08/22 15:11	AJ	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Client Sample ID: FS14

Date Collected: 07/05/22 15:30
Date Received: 07/06/22 08:11

Lab Sample ID: 890-2502-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			29267	07/08/22 09:27	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29181	07/07/22 09:20	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29163	07/07/22 19:27	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	29202	07/07/22 11:31	SMC	XEN MID
Soluble	Analysis	300.0		1			29209	07/07/22 13:54	CH	XEN MID

Client Sample ID: FS15

Date Collected: 07/05/22 16:00
Date Received: 07/06/22 08:11

Lab Sample ID: 890-2502-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	29191	07/07/22 10:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29173	07/07/22 15:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29326	07/08/22 15:11	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			29267	07/08/22 09:27	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	29183	07/07/22 09:35	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29167	07/07/22 15:21	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	29202	07/07/22 11:31	SMC	XEN MID
Soluble	Analysis	300.0		1			29209	07/07/22 14:01	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2502-1
SDG: 03D20570004

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2502-1	FS10	Solid	07/05/22 15:05	07/06/22 08:11	3
890-2502-2	FS12	Solid	07/05/22 15:10	07/06/22 08:11	3
890-2502-3	FS13	Solid	07/05/22 15:15	07/06/22 08:11	3
890-2502-4	FS14	Solid	07/05/22 15:30	07/06/22 08:11	3
890-2502-5	FS15	Solid	07/05/22 16:00	07/06/22 08:11	4

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennigns
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817-683-2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	MCA 308	Turn Around	
Project Number:	03D20570004	☐ Routine ☑ Rush	
Project Location:		Due Date:	24 day TAT
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	NM_007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.6	
Total Containers:		Corrected Temperature:	2.4	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
FS10	s	07.05.22	1505	3'	C	1		x	x	x	NAPP2202535435
FS12	s	07.05.22	1510	3'	C	1		x	x	x	
FS13	s	07.05.22	1515	3'	C	1		x	x	x	
FS14	s	07.05.22	1530	3'	C	1		x	x	x	
FS15	s	07.05.22	1600	4'	C	1		x	x	x	

890-2502 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010:** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		7.6.22 811	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2502-1
SDG Number: 03D20570004

Login Number: 2502
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2502-1
SDG Number: 03D20570004

Login Number: 2502
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/07/22 10:57 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2508-1
Laboratory Sample Delivery Group: 03D2057004
Client Project/Site: MCA 308

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
7/8/2022 2:18:12 PM

Jessica Kramer, Project Manager
(432)704-5440
Jessica.Kramer@et.eurofinsus.com

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

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

Client: Ensolum
Project/Site: MCA 308

Laboratory Job ID: 890-2508-1
SDG: 03D2057004

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Qualifiers

GC VOA

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Job ID: 890-2508-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2508-1

Receipt
The samples were received on 7/6/2022 12:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.2°C

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Client Sample ID: SW05

Date Collected: 07/06/22 09:35
Date Received: 07/06/22 12:25
Sample Depth: 0 - 3

Lab Sample ID: 890-2508-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		07/07/22 10:17	07/07/22 15:43	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/07/22 10:17	07/07/22 15:43	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		07/07/22 10:17	07/07/22 15:43	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		07/07/22 10:17	07/07/22 15:43	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/07/22 10:17	07/07/22 15:43	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/07/22 10:17	07/07/22 15:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*07/07/22 10:17*	*07/07/22 15:43*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*07/07/22 10:17*	*07/07/22 15:43*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			07/08/22 15:11	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			07/08/22 11:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		07/07/22 09:35	07/07/22 17:31	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/07/22 09:35	07/07/22 17:31	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/07/22 09:35	07/07/22 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*07/07/22 09:35*	*07/07/22 17:31*	*1*
o-Terphenyl	*97*		*70 - 130*	*07/07/22 09:35*	*07/07/22 17:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.63**		5.05		mg/Kg			07/07/22 14:25	1

Client Sample ID: SW06

Date Collected: 07/06/22 09:40
Date Received: 07/06/22 12:25
Sample Depth: 0 - 4

Lab Sample ID: 890-2508-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 16:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 16:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 16:04	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/07/22 10:17	07/07/22 16:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 16:04	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/07/22 10:17	07/07/22 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*07/07/22 10:17*	*07/07/22 16:04*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Client Sample ID: SW06

Date Collected: 07/06/22 09:40
Date Received: 07/06/22 12:25
Sample Depth: 0 - 4

Lab Sample ID: 890-2508-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*07/07/22 10:17*	*07/07/22 16:04*	*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			07/08/22 15:11	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			07/08/22 11:23	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		07/07/22 09:35	07/07/22 17:53	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		07/07/22 09:35	07/07/22 17:53	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		07/07/22 09:35	07/07/22 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*07/07/22 09:35*	*07/07/22 17:53*	*1*
o-Terphenyl	*98*		*70 - 130*	*07/07/22 09:35*	*07/07/22 17:53*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19.5**		5.04	mg/Kg			07/07/22 14:33	1

Client Sample ID: SW07

Date Collected: 07/06/22 09:45
Date Received: 07/06/22 12:25
Sample Depth: 0 - 4

Lab Sample ID: 890-2508-3

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		07/07/22 10:17	07/07/22 17:55	1
Toluene	<0.00201	U	0.00201	mg/Kg		07/07/22 10:17	07/07/22 17:55	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		07/07/22 10:17	07/07/22 17:55	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		07/07/22 10:17	07/07/22 17:55	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		07/07/22 10:17	07/07/22 17:55	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		07/07/22 10:17	07/07/22 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*07/07/22 10:17*	*07/07/22 17:55*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*07/07/22 10:17*	*07/07/22 17:55*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			07/08/22 15:11	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			07/08/22 11:23	1

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Client Sample ID: SW07

Lab Sample ID: 890-2508-3
Matrix: Solid
Date Collected: 07/06/22 09:45
Date Received: 07/06/22 12:25
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		07/07/22 15:35	07/07/22 18:14	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/07/22 15:35	07/07/22 18:14	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/07/22 15:35	07/07/22 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*07/07/22 15:35*	*07/07/22 18:14*	*1*
o-Terphenyl	*96*		*70 - 130*	*07/07/22 15:35*	*07/07/22 18:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.49**		5.00		mg/Kg			07/07/22 14:41	1

Client Sample ID: FS16

Lab Sample ID: 890-2508-4
Matrix: Solid
Date Collected: 07/06/22 09:50
Date Received: 07/06/22 12:25
Sample Depth: - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/07/22 10:17	07/07/22 18:16	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/07/22 10:17	07/07/22 18:16	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/07/22 10:17	07/07/22 18:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/07/22 10:17	07/07/22 18:16	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/07/22 10:17	07/07/22 18:16	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/07/22 10:17	07/07/22 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*07/07/22 10:17*	*07/07/22 18:16*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*07/07/22 10:17*	*07/07/22 18:16*	*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			07/08/22 15:11	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			07/08/22 11:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/07/22 09:35	07/07/22 18:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/07/22 09:35	07/07/22 18:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/07/22 09:35	07/07/22 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*07/07/22 09:35*	*07/07/22 18:36*	*1*
o-Terphenyl	*104*		*70 - 130*	*07/07/22 09:35*	*07/07/22 18:36*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Client Sample ID: FS16
Date Collected: 07/06/22 09:50
Date Received: 07/06/22 12:25
Sample Depth: - 4

Lab Sample ID: 890-2508-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1480		4.98		mg/Kg			07/07/22 14:48	1

Surrogate Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16557-A-5-E MS	Matrix Spike	111	103
880-16557-A-5-F MSD	Matrix Spike Duplicate	108	98
890-2508-1	SW05	102	90
890-2508-2	SW06	116	101
890-2508-3	SW07	112	103
890-2508-4	FS16	117	99
LCS 880-29191/1-A	Lab Control Sample	105	100
LCSD 880-29191/2-A	Lab Control Sample Dup	109	97
MB 880-29191/5-A	Method Blank	103	99

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2507-A-1-F MS	Matrix Spike	115	115
890-2507-A-1-G MSD	Matrix Spike Duplicate	116	116
890-2508-1	SW05	90	97
890-2508-2	SW06	91	98
890-2508-3	SW07	92	96
890-2508-4	FS16	101	104
LCS 880-29183/2-A	Lab Control Sample	124	136 S1+
LCSD 880-29183/3-A	Lab Control Sample Dup	105	109
MB 880-29183/1-A	Method Blank	114	128

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29191/5-A
Matrix: Solid
Analysis Batch: 29173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29191

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/07/22 10:17	07/07/22 12:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/07/22 10:17	07/07/22 12:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*07/07/22 10:17*	*07/07/22 12:31*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*07/07/22 10:17*	*07/07/22 12:31*	*1*

Lab Sample ID: LCS 880-29191/1-A
Matrix: Solid
Analysis Batch: 29173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29191

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09870		mg/Kg		99	70 - 130		
Toluene			0.100	0.1043		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.08958		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene			0.200	0.1825		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.1042		mg/Kg		104	70 - 130		

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

Lab Sample ID: LCSD 880-29191/2-A
Matrix: Solid
Analysis Batch: 29173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29191

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09476		mg/Kg		95	70 - 130	4	35
Toluene			0.100	0.1077		mg/Kg		108	70 - 130	3	35
Ethylbenzene			0.100	0.09471		mg/Kg		95	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.1942		mg/Kg		97	70 - 130	6	35
o-Xylene			0.100	0.1100		mg/Kg		110	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-16557-A-5-E MS
Matrix: Solid
Analysis Batch: 29173

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29191

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.101	0.09714		mg/Kg		96	70 - 130		
Toluene	<0.00199	U	0.101	0.1018		mg/Kg		101	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

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

Lab Sample ID: 880-16557-A-5-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29173 — **Prep Batch: 29191**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.08591		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1763		mg/Kg		87	70 - 130
o-Xylene	<0.00199	U	0.101	0.09959		mg/Kg		99	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-16557-A-5-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29173 — **Prep Batch: 29191**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.09385		mg/Kg		94	70 - 130	3	35
Toluene	<0.00199	U	0.100	0.1051		mg/Kg		105	70 - 130	3	35
Ethylbenzene	<0.00199	U	0.100	0.09028		mg/Kg		90	70 - 130	5	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1853		mg/Kg		92	70 - 130	5	35
o-Xylene	<0.00199	U	0.100	0.1044		mg/Kg		104	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-29183/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29167 — **Prep Batch: 29183**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/07/22 09:35	07/07/22 10:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/07/22 09:35	07/07/22 10:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/07/22 09:35	07/07/22 10:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*07/07/22 09:35*	*07/07/22 10:03*	*1*
o-Terphenyl	*128*		*70 - 130*	*07/07/22 09:35*	*07/07/22 10:03*	*1*

Lab Sample ID: LCS 880-29183/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 29167 — **Prep Batch: 29183**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1136		mg/Kg		114	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1143		mg/Kg		114	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

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

Lab Sample ID: LCS 880-29183/2-A
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29183

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	124		70 - 130
o-Terphenyl	136	S1+	70 - 130

Lab Sample ID: LCSD 880-29183/3-A
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 29183

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1093		mg/Kg		109	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1022		mg/Kg		102	70 - 130	11	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: 890-2507-A-1-F MS
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 29183

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	997	1311	F1	mg/Kg		132	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1006		mg/Kg		101	70 - 130		

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

Lab Sample ID: 890-2507-A-1-G MSD
Matrix: Solid
Analysis Batch: 29167

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 29183

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	996	1172		mg/Kg		118	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<50.0	U	996	1003		mg/Kg		101	70 - 130	0	20

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

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29202/1-A
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/07/22 12:51	1

Lab Sample ID: LCS 880-29202/2-A
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	232.5		mg/Kg		93	90 - 110		

Lab Sample ID: LCSD 880-29202/3-A
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	234.3		mg/Kg		94	90 - 110	1	20

Lab Sample ID: 890-2502-A-1-D MS
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	10.8		249	259.5		mg/Kg		100	90 - 110		

Lab Sample ID: 890-2502-A-1-E MSD
Matrix: Solid
Analysis Batch: 29209

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.8		249	260.1		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

GC VOA

Analysis Batch: 29173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2508-1	SW05	Total/NA	Solid	8021B	29191
890-2508-2	SW06	Total/NA	Solid	8021B	29191
890-2508-3	SW07	Total/NA	Solid	8021B	29191
890-2508-4	FS16	Total/NA	Solid	8021B	29191
MB 880-29191/5-A	Method Blank	Total/NA	Solid	8021B	29191
LCS 880-29191/1-A	Lab Control Sample	Total/NA	Solid	8021B	29191
LCSD 880-29191/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29191
880-16557-A-5-E MS	Matrix Spike	Total/NA	Solid	8021B	29191
880-16557-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	29191

Prep Batch: 29191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2508-1	SW05	Total/NA	Solid	5035	
890-2508-2	SW06	Total/NA	Solid	5035	
890-2508-3	SW07	Total/NA	Solid	5035	
890-2508-4	FS16	Total/NA	Solid	5035	
MB 880-29191/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29191/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29191/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16557-A-5-E MS	Matrix Spike	Total/NA	Solid	5035	
880-16557-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 29327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2508-1	SW05	Total/NA	Solid	Total BTEX	
890-2508-2	SW06	Total/NA	Solid	Total BTEX	
890-2508-3	SW07	Total/NA	Solid	Total BTEX	
890-2508-4	FS16	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 29167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2508-1	SW05	Total/NA	Solid	8015B NM	29183
890-2508-2	SW06	Total/NA	Solid	8015B NM	29183
890-2508-3	SW07	Total/NA	Solid	8015B NM	29183
890-2508-4	FS16	Total/NA	Solid	8015B NM	29183
MB 880-29183/1-A	Method Blank	Total/NA	Solid	8015B NM	29183
LCS 880-29183/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29183
LCSD 880-29183/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29183
890-2507-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	29183
890-2507-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	29183

Prep Batch: 29183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2508-1	SW05	Total/NA	Solid	8015NM Prep	
890-2508-2	SW06	Total/NA	Solid	8015NM Prep	
890-2508-3	SW07	Total/NA	Solid	8015NM Prep	
890-2508-4	FS16	Total/NA	Solid	8015NM Prep	
MB 880-29183/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29183/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

GC Semi VOA (Continued)

Prep Batch: 29183 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-29183/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2507-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2507-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 29289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2508-1	SW05	Total/NA	Solid	8015 NM	
890-2508-2	SW06	Total/NA	Solid	8015 NM	
890-2508-3	SW07	Total/NA	Solid	8015 NM	
890-2508-4	FS16	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2508-1	SW05	Soluble	Solid	DI Leach	
890-2508-2	SW06	Soluble	Solid	DI Leach	
890-2508-3	SW07	Soluble	Solid	DI Leach	
890-2508-4	FS16	Soluble	Solid	DI Leach	
MB 880-29202/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29202/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29202/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2502-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2502-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 29209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2508-1	SW05	Soluble	Solid	300.0	29202
890-2508-2	SW06	Soluble	Solid	300.0	29202
890-2508-3	SW07	Soluble	Solid	300.0	29202
890-2508-4	FS16	Soluble	Solid	300.0	29202
MB 880-29202/1-A	Method Blank	Soluble	Solid	300.0	29202
LCS 880-29202/2-A	Lab Control Sample	Soluble	Solid	300.0	29202
LCSD 880-29202/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29202
890-2502-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	29202
890-2502-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	29202

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Client Sample ID: SW05

Date Collected: 07/06/22 09:35
Date Received: 07/06/22 12:25

Lab Sample ID: 890-2508-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	29191	07/07/22 10:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29173	07/07/22 15:43	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29327	07/08/22 15:11	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			29289	07/08/22 11:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	29183	07/07/22 09:35	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29167	07/07/22 17:31	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	29202	07/07/22 11:31	SMC	XEN MID
Soluble	Analysis	300.0		1			29209	07/07/22 14:25	CH	XEN MID

Client Sample ID: SW06

Date Collected: 07/06/22 09:40
Date Received: 07/06/22 12:25

Lab Sample ID: 890-2508-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	29191	07/07/22 10:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29173	07/07/22 16:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29327	07/08/22 15:11	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			29289	07/08/22 11:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	29183	07/07/22 09:35	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29167	07/07/22 17:53	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	29202	07/07/22 11:31	SMC	XEN MID
Soluble	Analysis	300.0		1			29209	07/07/22 14:33	CH	XEN MID

Client Sample ID: SW07

Date Collected: 07/06/22 09:45
Date Received: 07/06/22 12:25

Lab Sample ID: 890-2508-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	29191	07/07/22 10:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29173	07/07/22 17:55	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29327	07/08/22 15:11	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			29289	07/08/22 11:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	29183	07/07/22 15:35	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29167	07/07/22 18:14	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	29202	07/07/22 11:31	SMC	XEN MID
Soluble	Analysis	300.0		1			29209	07/07/22 14:41	CH	XEN MID

Client Sample ID: FS16

Date Collected: 07/06/22 09:50
Date Received: 07/06/22 12:25

Lab Sample ID: 890-2508-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	29191	07/07/22 10:17	EL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29173	07/07/22 18:16	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			29327	07/08/22 15:11	AJ	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Client Sample ID: FS16
Date Collected: 07/06/22 09:50
Date Received: 07/06/22 12:25

Lab Sample ID: 890-2508-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			29289	07/08/22 11:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	29183	07/07/22 09:35	AM	XEN MID
Total/NA	Analysis	8015B NM		1			29167	07/07/22 18:36	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	29202	07/07/22 11:31	SMC	XEN MID
Soluble	Analysis	300.0		1			29209	07/07/22 14:48	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 890-2508-1
SDG: 03D2057004

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2508-1	SW05	Solid	07/06/22 09:35	07/06/22 12:25	0 - 3
890-2508-2	SW06	Solid	07/06/22 09:40	07/06/22 12:25	0 - 4
890-2508-3	SW07	Solid	07/06/22 09:45	07/06/22 12:25	0 - 4
890-2508-4	FS16	Solid	07/06/22 09:50	07/06/22 12:25	- 4

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennigns
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817-683-2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	MCA 308	Turn Around	
Project Number:	03D2057004	☐ Routine ☑ Rush	
Project Location:		Due Date:	24 HR TAT
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TRM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.4
Total Containers:		Corrected Temperature:	3.2

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	Parameters: TPH (8015)	Parameters: BTEX (8021)
SW05	s	07.06.22	935	0-3'	C	1		x	x	x
SW06	s	07.06.22	940	0-4'	C	1		x	x	x
SW07	s	07.06.22	945	0-4'	C	1		x	x	x
FS16	s	07.06.22	950	4'	C	1		x	x	x

ANALYSIS REQUEST

890-2508 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

NAPP2202535435

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	2	7.6.22 1224	3	4	
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2508-1
SDG Number: 03D2057004

Login Number: 2508
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2508-1
SDG Number: 03D2057004

Login Number: 2508
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/07/22 10:57 AM

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

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-12180-1
Laboratory Sample Delivery Group: 32.81639 -103.7694
Client Project/Site: MCA 308

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
3/15/2022 11:32:39 AM

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

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

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

Client: WSP USA Inc.
Project/Site: MCA 308

Laboratory Job ID: 880-12180-1
SDG: 32.81639 -103.7694

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-12180-1
Project/Site: MCA 308 SDG: 32.81639 -103.7694

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

Job ID: 880-12180-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-12180-1

Receipt
The sample was received on 3/8/2022 9:28 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C

Receipt Exceptions
Incorrect project name on COC, Correct project name is MCA 308 not MCA 328

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

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

Client Sample ID: SS01

Date Collected: 03/07/22 14:00
Date Received: 03/08/22 09:28
Sample Depth: 0.5

Lab Sample ID: 880-12180-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:38	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		03/14/22 09:09	03/14/22 23:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:38	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		03/14/22 09:09	03/14/22 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:38*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:38*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			03/15/22 11:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/14/22 09:05	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		03/09/22 09:11	03/13/22 06:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 06:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 06:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*03/09/22 09:11*	*03/13/22 06:51*	*1*
o-Terphenyl	*83*		*70 - 130*	*03/09/22 09:11*	*03/13/22 06:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.14**		4.99		mg/Kg			03/12/22 19:23	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-12180-1	SS01	105	102
880-12180-1 MS	SS01	100	101
880-12180-1 MSD	SS01	94	102
LCS 880-21489/1-A	Lab Control Sample	91	100
LCSD 880-21489/2-A	Lab Control Sample Dup	94	101
MB 880-21477/5-B	Method Blank	97	100
MB 880-21489/5-B	Method Blank	96	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-12099-A-1-G MS	Matrix Spike	106	99
880-12099-A-1-H MSD	Matrix Spike Duplicate	108	105
880-12180-1	SS01	90	83
LCS 880-21189/2-A	Lab Control Sample	116	119
LCSD 880-21189/3-A	Lab Control Sample Dup	112	117
MB 880-21189/1-A	Method Blank	105	117

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21477/5-B
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21477

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/14/22 08:50	03/14/22 11:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/14/22 08:50*	*03/14/22 11:34*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/14/22 08:50*	*03/14/22 11:34*	*1*

Lab Sample ID: MB 880-21489/5-B
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21489

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/14/22 09:09	03/14/22 23:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:09*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:09*	*1*

Lab Sample ID: LCS 880-21489/1-A
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21489

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09616		mg/Kg		96	70 - 130		
Toluene			0.100	0.09326		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.09241		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.2160		mg/Kg		108	70 - 130		
o-Xylene			0.100	0.1045		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-21489/2-A
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21489

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09887		mg/Kg		99	70 - 130	3	35

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

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

Lab Sample ID: LCSD 880-21489/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21466 — **Prep Batch: 21489**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene			0.100	0.09533		mg/Kg		95	70 - 130	2	35
Ethylbenzene			0.100	0.09407		mg/Kg		94	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2204		mg/Kg		110	70 - 130	2	35
o-Xylene			0.100	0.1079		mg/Kg		108	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-12180-1 MS — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21466 — **Prep Batch: 21489**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.100	0.1085		mg/Kg		108	70 - 130
Toluene	<0.00200	U	0.100	0.1042		mg/Kg		103	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.1027		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2410		mg/Kg		120	70 - 130
o-Xylene	<0.00200	U	0.100	0.1175		mg/Kg		117	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-12180-1 MSD — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21466 — **Prep Batch: 21489**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.09696		mg/Kg		97	70 - 130	11	35
Toluene	<0.00200	U	0.0998	0.09566		mg/Kg		95	70 - 130	9	35
Ethylbenzene	<0.00200	U	0.0998	0.09425		mg/Kg		94	70 - 130	9	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2208		mg/Kg		111	70 - 130	9	35
o-Xylene	<0.00200	U	0.0998	0.1085		mg/Kg		109	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

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

Lab Sample ID: MB 880-21189/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

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

Lab Sample ID: MB 880-21189/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*03/09/22 09:11*	*03/12/22 22:12*	*1*
o-Terphenyl	*117*		*70 - 130*	*03/09/22 09:11*	*03/12/22 22:12*	*1*

Lab Sample ID: LCS 880-21189/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	966.2		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1043		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Lab Sample ID: LCSD 880-21189/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	930.7		mg/Kg		93	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1055		mg/Kg		106	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: 880-12099-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1136		mg/Kg		111	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1159		mg/Kg		116	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

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

Lab Sample ID: 880-12099-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1112		mg/Kg		108	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1215		mg/Kg		122	70 - 130	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-21136/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/12/22 15:24	1

Lab Sample ID: LCS 880-21136/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	252.6		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-21136/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	253.7		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-12098-A-15-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	95.5		250	368.3		mg/Kg		109	90 - 110		

Lab Sample ID: 880-12098-A-15-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	95.5		250	350.8		mg/Kg		102	90 - 110	5	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

GC VOA

Analysis Batch: 21466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12180-1	SS01	Total/NA	Solid	8021B	21489
MB 880-21477/5-B	Method Blank	Total/NA	Solid	8021B	21477
MB 880-21489/5-B	Method Blank	Total/NA	Solid	8021B	21489
LCS 880-21489/1-A	Lab Control Sample	Total/NA	Solid	8021B	21489
LCSD 880-21489/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21489
880-12180-1 MS	SS01	Total/NA	Solid	8021B	21489
880-12180-1 MSD	SS01	Total/NA	Solid	8021B	21489

Prep Batch: 21477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21477/5-B	Method Blank	Total/NA	Solid	5035	

Prep Batch: 21489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12180-1	SS01	Total/NA	Solid	5035	
MB 880-21489/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-21489/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21489/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12180-1 MS	SS01	Total/NA	Solid	5035	
880-12180-1 MSD	SS01	Total/NA	Solid	5035	

Analysis Batch: 21646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12180-1	SS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 21189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12180-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 21427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12180-1	SS01	Total/NA	Solid	8015B NM	21189
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015B NM	21189
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21189
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21189
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	21189
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21189

Analysis Batch: 21485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12180-1	SS01	Total/NA	Solid	8015 NM	

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

HPLC/IC

Leach Batch: 21136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12180-1	SS01	Soluble	Solid	DI Leach	
MB 880-21136/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-21136/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-21136/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12098-A-15-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-12098-A-15-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 21541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12180-1	SS01	Soluble	Solid	300.0	21136
MB 880-21136/1-A	Method Blank	Soluble	Solid	300.0	21136
LCS 880-21136/2-A	Lab Control Sample	Soluble	Solid	300.0	21136
LCSD 880-21136/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	21136
880-12098-A-15-B MS	Matrix Spike	Soluble	Solid	300.0	21136
880-12098-A-15-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	21136

Lab Chronicle

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

Client Sample ID: SS01
Date Collected: 03/07/22 14:00
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12180-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	21489	03/14/22 09:09	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21466	03/14/22 23:38	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21646	03/15/22 11:45	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21485	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 06:51	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	21136	03/08/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			21541	03/12/22 19:23	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 880-12180-1
Project/Site: MCA 308 SDG: 32.81639 -103.7694

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: WSP USA Inc. Job ID: 880-12180-1
Project/Site: MCA 308 SDG: 32.81639 -103.7694

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12180-1
SDG: 32.81639 -103.7694

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-12180-1	SS01	Solid	03/07/22 14:00	03/08/22 09:28	0.5

Chain of Custody

XENCO LABORATORIES

Houston TX (281) 240-4200 Dallas TX (214) 902-0300 San Antonio TX (210) 509-3334
Midland TX (432) 704-5440 EL Paso TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs NM (575) 392 7550 Carlsbad NM (575) 988-3199 Phoenix, AZ (480) 355-0900
Tampa FL (813) 620-2000 Tallahassee FL (850) 756-0747 Delray Beach FL (561) 689-6701
Atlanta GA (770) 449-8800

Work Order No: 12180

www.xenco.com Page 1 of 1

Project Manager	Kalei Jennings	Bill to (if different)	Kalei Jennings
Company Name	WSP USA Inc	Company Name	WSP USA Inc
Address	3300 North A St, Bldg 1, UNH 122	Address	
City, State ZIP	Midland, TX 79705	City State ZIP	
Phone	817-683-2503	Email	Kalei.Jennings@wsp.com

Work Order Comments

Program UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project
Reporting Level I (II) ☐ Level III ☐ PST/USTR ☐ TRRP ☐ Level IV ☐
Deliverables EDD (☐) ADaPT ☐ Other

Project Name	MCA 326	Turn Around	
Project Number	31403720.000	Routine	☒
Project Location	32.81639, -103.7694	Rush	☐
Sampler's Name	Hadlie Green	Due Date	5 DAY
PO #			

SAMPLE RECEIPT			
Temp Blank	Yes (No)	Wet Ice	(Yes) No
Temperature (°C)	4.6/4.5	Thermometer ID	IR8
Received Intact:	(Yes) No		
Cooler Custody Seals	Yes No (N/A)	Correction Factor	.1
Sample Custody Seals	Yes No (N/A)	Total Containers	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	BTEX (EPA 8021)	TPH (EPA 8015)	CHLORIDES (EPA 300)
SS01	SL	3-7-22	14:00	0.5	1	X	X	X

Preservative Codes

HNO3 HN
H2S04 H2
HCL HL
None NO
NaOH Na
MeOH Me
Zn Acetate+ NaOH Zn

TAT starts the day recevied by the lab if received by 4.30pm

Sample Comments

880-12180 Chain of Custody

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

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

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1 Hadlie Green		3/8/22 9.28	2		
3			4		
5			6		

Revised Date101419 Rev 2019.1

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-12181-1
Client Project/Site: MCA 308

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
3/14/2022 2:52:30 PM

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

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

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

Client: WSP USA Inc.
Project/Site: MCA 308

Laboratory Job ID: 880-12181-1

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-12181-1
Project/Site: MCA 308

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

Job ID: 880-12181-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-12181-1

Receipt
The sample was received on 3/8/2022 9:28 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C

Receipt Exceptions
Incorrect project name on COC, Correct project name is MCA 308 not MCA 328

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-21146 and analytical batch 880-21440 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

Client Sample ID: SS02
Date Collected: 03/07/22 14:07
Date Received: 03/08/22 09:28
Sample Depth: 0.5'

Lab Sample ID: 880-12181-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 20:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 20:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 20:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/13/22 12:58	03/13/22 20:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 20:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/13/22 12:58	03/13/22 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*03/13/22 12:58*	*03/13/22 20:51*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*03/13/22 12:58*	*03/13/22 20:51*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/14/22 09:05	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		03/09/22 09:11	03/13/22 07:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 07:13	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 07:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*03/09/22 09:11*	*03/13/22 07:13*	*1*
o-Terphenyl	*87*		*70 - 130*	*03/09/22 09:11*	*03/13/22 07:13*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/12/22 19:32	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-12181-1	SS02	99	93										
880-12263-A-1-H MS	Matrix Spike	112	95										
880-12263-A-1-I MSD	Matrix Spike Duplicate	2911 S1+	176 S1+										
LCS 880-21146/1-A	Lab Control Sample	94	98										
LCSD 880-21146/2-A	Lab Control Sample Dup	97	101										
MB 880-21012/5-A	Method Blank	95	100										
MB 880-21146/5-A	Method Blank	97	99										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-12099-A-1-G MS	Matrix Spike	106	99										
880-12099-A-1-H MSD	Matrix Spike Duplicate	108	105										
880-12181-1	SS02	91	87										
LCS 880-21189/2-A	Lab Control Sample	116	119										
LCSD 880-21189/3-A	Lab Control Sample Dup	112	117										
MB 880-21189/1-A	Method Blank	105	117										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21012/5-A
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21012

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/11/22 16:00	03/13/22 07:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*03/11/22 16:00*	*03/13/22 07:08*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/11/22 16:00*	*03/13/22 07:08*	*1*

Lab Sample ID: MB 880-21146/5-A
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21146

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/13/22 12:58	03/13/22 19:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/13/22 12:58*	*03/13/22 19:01*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*03/13/22 12:58*	*03/13/22 19:01*	*1*

Lab Sample ID: LCS 880-21146/1-A
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21146

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09993		mg/Kg		100	70 - 130		
Toluene			0.100	0.09490		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.09416		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.2203		mg/Kg		110	70 - 130		
o-Xylene			0.100	0.1080		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-21146/2-A
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21146

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1051		mg/Kg		105	70 - 130	5	35

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

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

Lab Sample ID: LCSD 880-21146/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21440 — **Prep Batch: 21146**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene			0.100	0.1004		mg/Kg		100	70 - 130	6	35
Ethylbenzene			0.100	0.09886		mg/Kg		99	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2316		mg/Kg		116	70 - 130	5	35
o-Xylene			0.100	0.1131		mg/Kg		113	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-12263-A-1-H MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21440 — **Prep Batch: 21146**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F1	0.100	0.04828	F1	mg/Kg		48	70 - 130
Toluene	<0.00199	U F2 F1	0.100	0.05479	F1	mg/Kg		54	70 - 130
Ethylbenzene	<0.00199	U F2 F1	0.100	0.06147	F1	mg/Kg		61	70 - 130
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.200	0.1430		mg/Kg		71	70 - 130
o-Xylene	<0.00199	U F2 F1	0.100	0.07492		mg/Kg		75	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-12263-A-1-I MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21440 — **Prep Batch: 21146**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0996	0.04152	F1	mg/Kg		42	70 - 130	15	35
Toluene	<0.00199	U F2 F1	0.0996	0.002562	F2 F1	mg/Kg		2	70 - 130	182	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*2911*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*176*	*S1+*	*70 - 130*

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

Lab Sample ID: MB 880-21189/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

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

Lab Sample ID: MB 880-21189/1-A
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21189

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	03/09/22 09:11	03/12/22 22:12	1
o-Terphenyl	117		70 - 130	03/09/22 09:11	03/12/22 22:12	1

Lab Sample ID: LCS 880-21189/2-A
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21189

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	966.2		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1043		mg/Kg		104	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	119		70 - 130

Lab Sample ID: LCSD 880-21189/3-A
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21189

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	930.7		mg/Kg		93	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1055		mg/Kg		106	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: 880-12099-A-1-G MS
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 21189

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1136		mg/Kg		111	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1159		mg/Kg		116	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	99		70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

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

Lab Sample ID: 880-12099-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1112		mg/Kg		108	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1215		mg/Kg		122	70 - 130	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-21136/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/12/22 15:24	1

Lab Sample ID: LCS 880-21136/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	252.6		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-21136/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	253.7		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-12098-A-15-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	95.5		250	368.3		mg/Kg		109	90 - 110		

Lab Sample ID: 880-12098-A-15-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	95.5		250	350.8		mg/Kg		102	90 - 110	5	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

GC VOA

Prep Batch: 21012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21012/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 21146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12181-1	SS02	Total/NA	Solid	5035	
MB 880-21146/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21146/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21146/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12263-A-1-H MS	Matrix Spike	Total/NA	Solid	5035	
880-12263-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 21440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12181-1	SS02	Total/NA	Solid	8021B	21146
MB 880-21012/5-A	Method Blank	Total/NA	Solid	8021B	21012
MB 880-21146/5-A	Method Blank	Total/NA	Solid	8021B	21146
LCS 880-21146/1-A	Lab Control Sample	Total/NA	Solid	8021B	21146
LCSD 880-21146/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21146
880-12263-A-1-H MS	Matrix Spike	Total/NA	Solid	8021B	21146
880-12263-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21146

Analysis Batch: 21553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12181-1	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 21189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12181-1	SS02	Total/NA	Solid	8015NM Prep	
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 21427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12181-1	SS02	Total/NA	Solid	8015B NM	21189
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015B NM	21189
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21189
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21189
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	21189
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21189

Analysis Batch: 21486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12181-1	SS02	Total/NA	Solid	8015 NM	

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

HPLC/IC

Leach Batch: 21136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12181-1	SS02	Soluble	Solid	DI Leach	
MB 880-21136/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-21136/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-21136/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12098-A-15-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-12098-A-15-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 21541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12181-1	SS02	Soluble	Solid	300.0	21136
MB 880-21136/1-A	Method Blank	Soluble	Solid	300.0	21136
LCS 880-21136/2-A	Lab Control Sample	Soluble	Solid	300.0	21136
LCSD 880-21136/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	21136
880-12098-A-15-B MS	Matrix Spike	Soluble	Solid	300.0	21136
880-12098-A-15-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	21136

Lab Chronicle

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

Client Sample ID: SS02

Date Collected: 03/07/22 14:07
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12181-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	21146	03/13/22 12:58	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21440	03/13/22 20:51	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21553	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21486	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 07:13	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	21136	03/08/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			21541	03/12/22 19:32	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12181-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-12181-1	SS02	Solid	03/07/22 14:07	03/08/22 09:28	0.5'

Chain of Custody

Houston TX (281) 240-4200 Dallas TX (214) 902-0300 San Antonio TX (210) 509-3334
Midland TX (432) 704-5440 EL Paso TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs NM (575) 392 7550 Carlsbad NM (575) 988-3199 Phoenix AZ (480) 355-0900
Tampa FL (813) 620-2000 Tallahassee FL (850) 756-0747 Delray Beach FL (561) 689-6701
Atlanta GA (770) 449-8800

Work Order No: 12181

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Project Manager	Kalei Jennings	Bill to (if different)	Kalei Jennings
Company Name	WSP USA Inc	Company Name	WSP USA Inc
Address	3300 North A St, Bldg 1, Unit 222	Address	
City State ZIP	Midland, TX 79705	City State ZIP	
Phone	817-683-2503 Email		Kalei.Jennings@wsp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project.
Reporting Level II ☐ Level III ☐ PST/US ☐ TRRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other

Project Name	MCA 329	Turn Around	
Project Number	31403720.000	Routine	☒
Project Location	32.01639, -103.7694	Rush	☐
Sampler's Name	Hadlu Green	Due Date	5 DAY
PO #			

SAMPLE RECEIPT			
Temp Blank	Yes (No)	Wet Ice	(Yes) No
Temperature (°C)	4.6/4.5	Thermometer ID	IR8
Received Intact:	(Yes) No		
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-.1
Sample Custody Seals	Yes No (N/A)	Total Containers	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	BTEX (8021)	TPH (8015)	CHLORIDES (300)
SS02	SL	3-7-22	14:07	0.5'	1	X	X	X

Preservative Codes

HNO3 HN
H2S04 H2
HCL HL
None NO
NaOH Na
MeOH Me
Zn Acetate+ NaOH Zn

TAT starts the day recevied by the lab if received by 4 30pm

Sample Comments

880-12181 Chain of Custody

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

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

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1 Hadlu Green		3/8/22 9:20	2		
3			4		
5			6		

Revised Date101419 Rev 2019 1

Login Sample Receipt Checklist

Client: WSP USA Inc. Job Number: 880-12181-1

Login Number: 12181 **List Source: Eurofins Midland**
List Number: 1
Creator: Rodriguez, Leticia

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

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-12183-1
Client Project/Site: MCA 308

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
3/15/2022 11:37:38 AM

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

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

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

Client: WSP USA Inc.
Project/Site: MCA 308

Laboratory Job ID: 880-12183-1

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-12183-1
Project/Site: MCA 308

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

Job ID: 880-12183-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-12183-1

Receipt
The sample was received on 3/8/2022 9:28 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C

Receipt Exceptions
Incorrect project name on COC, Correct project name is MCA 308 not MCA 328

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

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

Client Sample ID: SS03

Date Collected: 03/07/22 14:13
Date Received: 03/08/22 09:28
Sample Depth: 0.5'

Lab Sample ID: 880-12183-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:58	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/14/22 09:09	03/14/22 23:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:58	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/14/22 09:09	03/14/22 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:58*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:58*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			03/15/22 11:45	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			03/14/22 09:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/09/22 09:11	03/13/22 07:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/09/22 09:11	03/13/22 07:35	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/09/22 09:11	03/13/22 07:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*03/09/22 09:11*	*03/13/22 07:35*	*1*
o-Terphenyl	*86*		*70 - 130*	*03/09/22 09:11*	*03/13/22 07:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95		mg/Kg			03/12/22 19:41	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-12180-A-1-G MS	Matrix Spike	100	101										
880-12180-A-1-H MSD	Matrix Spike Duplicate	94	102										
880-12183-1	SS03	111	100										
LCS 880-21489/1-A	Lab Control Sample	91	100										
LCSD 880-21489/2-A	Lab Control Sample Dup	94	101										
MB 880-21477/5-B	Method Blank	97	100										
MB 880-21489/5-B	Method Blank	96	100										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-12099-A-1-G MS	Matrix Spike	106	99										
880-12099-A-1-H MSD	Matrix Spike Duplicate	108	105										
880-12183-1	SS03	93	86										
LCS 880-21189/2-A	Lab Control Sample	116	119										
LCSD 880-21189/3-A	Lab Control Sample Dup	112	117										
MB 880-21189/1-A	Method Blank	105	117										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21477/5-B
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21477

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/14/22 08:50	03/14/22 11:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/14/22 08:50*	*03/14/22 11:34*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/14/22 08:50*	*03/14/22 11:34*	*1*

Lab Sample ID: MB 880-21489/5-B
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21489

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/14/22 09:09	03/14/22 23:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:09*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:09*	*1*

Lab Sample ID: LCS 880-21489/1-A
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21489

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09616		mg/Kg		96	70 - 130		
Toluene			0.100	0.09326		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.09241		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.2160		mg/Kg		108	70 - 130		
o-Xylene			0.100	0.1045		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-21489/2-A
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21489

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09887		mg/Kg		99	70 - 130	3	35

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

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

Lab Sample ID: LCSD 880-21489/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21466 — **Prep Batch: 21489**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene			0.100	0.09533		mg/Kg		95	70 - 130	2	35
Ethylbenzene			0.100	0.09407		mg/Kg		94	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2204		mg/Kg		110	70 - 130	2	35
o-Xylene			0.100	0.1079		mg/Kg		108	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-12180-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21466 — **Prep Batch: 21489**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.100	0.1085		mg/Kg		108	70 - 130
Toluene	<0.00200	U	0.100	0.1042		mg/Kg		103	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.1027		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2410		mg/Kg		120	70 - 130
o-Xylene	<0.00200	U	0.100	0.1175		mg/Kg		117	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-12180-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21466 — **Prep Batch: 21489**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.09696		mg/Kg		97	70 - 130	11	35
Toluene	<0.00200	U	0.0998	0.09566		mg/Kg		95	70 - 130	9	35
Ethylbenzene	<0.00200	U	0.0998	0.09425		mg/Kg		94	70 - 130	9	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2208		mg/Kg		111	70 - 130	9	35
o-Xylene	<0.00200	U	0.0998	0.1085		mg/Kg		109	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

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

Lab Sample ID: MB 880-21189/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1

Eurofins Midland

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

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

Lab Sample ID: MB 880-21189/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*03/09/22 09:11*	*03/12/22 22:12*	*1*
o-Terphenyl	*117*		*70 - 130*	*03/09/22 09:11*	*03/12/22 22:12*	*1*

Lab Sample ID: LCS 880-21189/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	966.2		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1043		mg/Kg		104	70 - 130		

Surrogate			*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane			*116*		*70 - 130*
o-Terphenyl			*119*		*70 - 130*

Lab Sample ID: LCSD 880-21189/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	930.7		mg/Kg		93	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1055		mg/Kg		106	70 - 130	1	20

Surrogate			*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane			*112*		*70 - 130*
o-Terphenyl			*117*		*70 - 130*

Lab Sample ID: 880-12099-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1136		mg/Kg		111	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1159		mg/Kg		116	70 - 130		

Surrogate			*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane			*106*		*70 - 130*
o-Terphenyl			*99*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

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

Lab Sample ID: 880-12099-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1112		mg/Kg		108	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1215		mg/Kg		122	70 - 130	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-21136/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/12/22 15:24	1

Lab Sample ID: LCS 880-21136/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	252.6		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-21136/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	253.7		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-12098-A-15-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	95.5		250	368.3		mg/Kg		109	90 - 110		

Lab Sample ID: 880-12098-A-15-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	95.5		250	350.8		mg/Kg		102	90 - 110	5	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

GC VOA

Analysis Batch: 21466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12183-1	SS03	Total/NA	Solid	8021B	21489
MB 880-21477/5-B	Method Blank	Total/NA	Solid	8021B	21477
MB 880-21489/5-B	Method Blank	Total/NA	Solid	8021B	21489
LCS 880-21489/1-A	Lab Control Sample	Total/NA	Solid	8021B	21489
LCSD 880-21489/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21489
880-12180-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	21489
880-12180-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21489

Prep Batch: 21477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21477/5-B	Method Blank	Total/NA	Solid	5035	

Prep Batch: 21489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12183-1	SS03	Total/NA	Solid	5035	
MB 880-21489/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-21489/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21489/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12180-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
880-12180-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 21647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12183-1	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 21189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12183-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 21427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12183-1	SS03	Total/NA	Solid	8015B NM	21189
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015B NM	21189
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21189
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21189
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	21189
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21189

Analysis Batch: 21487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12183-1	SS03	Total/NA	Solid	8015 NM	

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

HPLC/IC

Leach Batch: 21136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12183-1	SS03	Soluble	Solid	DI Leach	
MB 880-21136/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-21136/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-21136/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12098-A-15-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-12098-A-15-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 21541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12183-1	SS03	Soluble	Solid	300.0	21136
MB 880-21136/1-A	Method Blank	Soluble	Solid	300.0	21136
LCS 880-21136/2-A	Lab Control Sample	Soluble	Solid	300.0	21136
LCSD 880-21136/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	21136
880-12098-A-15-B MS	Matrix Spike	Soluble	Solid	300.0	21136
880-12098-A-15-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	21136

Lab Chronicle

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

Client Sample ID: SS03

Date Collected: 03/07/22 14:13
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12183-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	21489	03/14/22 09:09	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21466	03/14/22 23:58	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21647	03/15/22 11:45	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21487	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 07:35	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	21136	03/08/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			21541	03/12/22 19:41	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12183-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-12183-1	SS03	Solid	03/07/22 14:13	03/08/22 09:28	0.5'

Chain of Custody

XENCO LABORATORIES

Houston TX (281) 240-4200 Dallas TX (214) 902-0300 San Antonio TX (210) 509-3334
Midland TX (432) 704-5440 EL Paso TX (915) 585-3443 Lubbock TX (806) 794-1296
Hobbs NM (575) 392 7550 Carlsbad NM (575) 988-3199 Phoenix AZ (480) 355-0900
Tampa FL (813) 620-2000 Tallahassee FL (850) 756-0747 Delray Beach FL (561) 689-6701
Atlanta GA (770) 449-8800

Work Order No: 12183

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Project Manager	Kalei Jennings	Bill to (if different)	Kalei Jennings
Company Name	WSP	Company Name	WSP
Address	3300 North A St, Bldg 1, Unit 222	Address	
City, State ZIP	Midland, TX 79705	City State ZIP	
Phone	817-683-2503	Email	Kalei.Jennings@wsp.com

Work Order Comments

Program UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project
Reporting Level (II) Level III ☐ PST/US ☐ TRRP ☐ Level IV ☐
Deliverables EDD (EDD) ADaPT ☐ Other

Project Name.	MCA 329	Turn Around	
Project Number	31403720.000	Routine	☒
Project Location	32.91639, -103.7694	Rush	☐
Sampler's Name	Hadlie Green	Due Date	SDAY
PO #			

SAMPLE RECEIPT			
Temp Blank	Yes (No)	Wet Ice	(Yes) No
Temperature (°C)	4.6/4.5	Thermometer ID	IR8
Received Intact.	(Yes) No		
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-.1
Sample Custody Seals	Yes No (N/A)	Total Containers	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	BTEX (8021)	TPH (8015)	CHLORIDES (300)
SS03	SL	3-7-22	14:13	0.5'	1	X	X	X

Preservative Codes

HNO3 HN
H2S04 H2
HCL HL
None. NO
NaOH Na
MeOH Me
Zn Acetate+ NaOH Zn

TAT starts the day recevied by the lab if received by 4 30pm

Sample Comments

880-12183 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** Hg

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

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1 Hadlie Green		3/8/22 9.28	2		
3			4		
5			6		

Revised Date101419 Rev 2019 1

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-12184-1
Laboratory Sample Delivery Group: 32.81639, -103.7694
Client Project/Site: MCA 308

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
3/15/2022 11:37:53 AM

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

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

Client: WSP USA Inc.
Project/Site: MCA 308

Laboratory Job ID: 880-12184-1
SDG: 32.81639, -103.7694

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 880-12184-1
Project/Site: MCA 308 SDG: 32.81639, -103.7694

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
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Job ID: 880-12184-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-12184-1

Receipt
The sample was received on 3/8/2022 9:28 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.5°C

Receipt Exceptions
Incorrect project name on COC, Correct project name is MCA 308 not MCA 328

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

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
SDG: 32.81639, -103.7694

Client Sample ID: SS04
Date Collected: 03/07/22 14:17
Date Received: 03/08/22 09:28
Sample Depth: 0.5'

Lab Sample ID: 880-12184-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/14/22 09:09	03/15/22 00:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/14/22 09:09	03/15/22 00:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/14/22 09:09	03/15/22 00:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/14/22 09:09	03/15/22 00:18	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/14/22 09:09	03/15/22 00:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/14/22 09:09	03/15/22 00:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*03/14/22 09:09*	*03/15/22 00:18*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*03/14/22 09:09*	*03/15/22 00:18*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/15/22 11:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/14/22 09:05	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		03/09/22 09:11	03/13/22 07:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 07:57	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 07:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*03/09/22 09:11*	*03/13/22 07:57*	*1*
o-Terphenyl	*86*		*70 - 130*	*03/09/22 09:11*	*03/13/22 07:57*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.04	U	5.04		mg/Kg			03/12/22 19:49	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
SDG: 32.81639, -103.7694

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-12180-A-1-G MS	Matrix Spike	100	101
880-12180-A-1-H MSD	Matrix Spike Duplicate	94	102
880-12184-1	SS04	106	93
LCS 880-21489/1-A	Lab Control Sample	91	100
LCSD 880-21489/2-A	Lab Control Sample Dup	94	101
MB 880-21477/5-B	Method Blank	97	100
MB 880-21489/5-B	Method Blank	96	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-12099-A-1-G MS	Matrix Spike	106	99
880-12099-A-1-H MSD	Matrix Spike Duplicate	108	105
880-12184-1	SS04	90	86
LCS 880-21189/2-A	Lab Control Sample	116	119
LCSD 880-21189/3-A	Lab Control Sample Dup	112	117
MB 880-21189/1-A	Method Blank	105	117

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
SDG: 32.81639, -103.7694

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21477/5-B
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21477

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 08:50	03/14/22 11:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/14/22 08:50	03/14/22 11:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/14/22 08:50*	*03/14/22 11:34*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/14/22 08:50*	*03/14/22 11:34*	*1*

Lab Sample ID: MB 880-21489/5-B
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21489

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 09:09	03/14/22 23:09	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/14/22 09:09	03/14/22 23:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:09*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/14/22 09:09*	*03/14/22 23:09*	*1*

Lab Sample ID: LCS 880-21489/1-A
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21489

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09616		mg/Kg		96	70 - 130		
Toluene			0.100	0.09326		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.09241		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.2160		mg/Kg		108	70 - 130		
o-Xylene			0.100	0.1045		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-21489/2-A
Matrix: Solid
Analysis Batch: 21466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21489

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09887		mg/Kg		99	70 - 130	3	35

QC Sample Results

Client: WSP USA Inc.
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Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-21489/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21466 — **Prep Batch: 21489**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene			0.100	0.09533		mg/Kg		95	70 - 130	2	35
Ethylbenzene			0.100	0.09407		mg/Kg		94	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2204		mg/Kg		110	70 - 130	2	35
o-Xylene			0.100	0.1079		mg/Kg		108	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-12180-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21466 — **Prep Batch: 21489**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.100	0.1085		mg/Kg		108	70 - 130
Toluene	<0.00200	U	0.100	0.1042		mg/Kg		103	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.1027		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2410		mg/Kg		120	70 - 130
o-Xylene	<0.00200	U	0.100	0.1175		mg/Kg		117	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-12180-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21466 — **Prep Batch: 21489**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.09696		mg/Kg		97	70 - 130	11	35
Toluene	<0.00200	U	0.0998	0.09566		mg/Kg		95	70 - 130	9	35
Ethylbenzene	<0.00200	U	0.0998	0.09425		mg/Kg		94	70 - 130	9	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2208		mg/Kg		111	70 - 130	9	35
o-Xylene	<0.00200	U	0.0998	0.1085		mg/Kg		109	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

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

Lab Sample ID: MB 880-21189/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1

QC Sample Results

Client: WSP USA Inc.
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Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-21189/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*03/09/22 09:11*	*03/12/22 22:12*	*1*
o-Terphenyl	*117*		*70 - 130*	*03/09/22 09:11*	*03/12/22 22:12*	*1*

Lab Sample ID: LCS 880-21189/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	966.2		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1043		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Lab Sample ID: LCSD 880-21189/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	930.7		mg/Kg		93	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1055		mg/Kg		106	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: 880-12099-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1136		mg/Kg		111	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1159		mg/Kg		116	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
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Job ID: 880-12184-1
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Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-12099-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 21427 — **Prep Batch: 21189**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1112		mg/Kg		108	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1215		mg/Kg		122	70 - 130	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-21136/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/12/22 15:24	1

Lab Sample ID: LCS 880-21136/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	252.6		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-21136/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	253.7		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-12098-A-15-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	95.5		250	368.3		mg/Kg		109	90 - 110		

Lab Sample ID: 880-12098-A-15-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 21541

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	95.5		250	350.8		mg/Kg		102	90 - 110	5	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
SDG: 32.81639, -103.7694

GC VOA

Analysis Batch: 21466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12184-1	SS04	Total/NA	Solid	8021B	21489
MB 880-21477/5-B	Method Blank	Total/NA	Solid	8021B	21477
MB 880-21489/5-B	Method Blank	Total/NA	Solid	8021B	21489
LCS 880-21489/1-A	Lab Control Sample	Total/NA	Solid	8021B	21489
LCSD 880-21489/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21489
880-12180-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	21489
880-12180-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21489

Prep Batch: 21477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21477/5-B	Method Blank	Total/NA	Solid	5035	

Prep Batch: 21489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12184-1	SS04	Total/NA	Solid	5035	
MB 880-21489/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-21489/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21489/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12180-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
880-12180-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 21648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12184-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 21189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12184-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 21427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12184-1	SS04	Total/NA	Solid	8015B NM	21189
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015B NM	21189
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21189
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21189
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	21189
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21189

Analysis Batch: 21488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12184-1	SS04	Total/NA	Solid	8015 NM	

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
SDG: 32.81639, -103.7694

HPLC/IC

Leach Batch: 21136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12184-1	SS04	Soluble	Solid	DI Leach	
MB 880-21136/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-21136/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-21136/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12098-A-15-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-12098-A-15-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 21541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12184-1	SS04	Soluble	Solid	300.0	21136
MB 880-21136/1-A	Method Blank	Soluble	Solid	300.0	21136
LCS 880-21136/2-A	Lab Control Sample	Soluble	Solid	300.0	21136
LCSD 880-21136/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	21136
880-12098-A-15-B MS	Matrix Spike	Soluble	Solid	300.0	21136
880-12098-A-15-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	21136

Lab Chronicle

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
SDG: 32.81639, -103.7694

Client Sample ID: SS04
Date Collected: 03/07/22 14:17
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12184-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	21489	03/14/22 09:09	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21466	03/15/22 00:18	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21648	03/15/22 11:45	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21488	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 07:57	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	21136	03/08/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			21541	03/12/22 19:49	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
SDG: 32.81639, -103.7694

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
SDG: 32.81639, -103.7694

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12184-1
SDG: 32.81639, -103.7694

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-12184-1	SS04	Solid	03/07/22 14:17	03/08/22 09:28	0.5'

Chain of Custody

XENCO LABORATORIES

Houston TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio TX (210) 509-3334
Midland TX (432) 704-5440 EL Paso TX (915) 585-3443 Lubbock TX (806) 794-1296
Hobbs NM (575) 392 7550 Carlsbad NM (575) 988-3199 Phoenix AZ (480) 355-0900
Tampa FL (813) 620-2000 Tallahassee FL (850) 756-0747 Delray Beach FL (561) 689-6701
Atlanta GA (770) 449-8800

Work Order No: 12184

www.xenco.com Page 1 of 1

Project Manager	Kalei Jennings	Bill to (if different)	Kalei Jennings
Company Name	WSP	Company Name	WSP
Address	3300 North A St, Bldg 1, Unit 222	Address	
City, State ZIP	Midland, TX 79705	City State ZIP	
Phone	817-683-2503	Email	Kalei.Jennings@wsp.com

Work Order Comments

Program UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting Level (I) Level II ☐ PST/US ☐ TRRP ☐ Level IV ☐
Deliverables EDD (E) ADaPT ☐ Other:

Project Name	MCA 326	Turn Around	
Project Number	31403726.000	Routine	☒
Project Location	32.81639, -103.7694	Rush	☐
Sampler's Name	Hadlie Green	Due Date	5DAY
PO #:			

SAMPLE RECEIPT			
Temp Blank.	Yes (No)	Wet Ice	(Yes) No
Temperature (°C)	4.0/4.5	Thermometer ID	IR8
Received Intact.	(Yes) No		
Cooler Custody Seals.	Yes No (N/A)	Correction Factor	-.1
Sample Custody Seals	Yes No (N/A)	Total Containers	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	BTEX (8021)	TPH (8015)	Chlorides (300)
SS04	SL	3-7-22	14:17	0.5'	1	X	X	X

Preservative Codes

HNO3 HN
H2S04 H2
HCL HL
None NO
NaOH Na
MeOH Me
Zn Acetate+ NaOH Zn

TAT starts the day recevied by the lab if received by 4 30pm

Sample Comments

880-12184 Chain of Custody

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

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

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1 Hadlie Green		3/8/22 9 28	2		
3			4		
5			6		

Revised Date101419 Rev 2019 1

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-12185-1
Laboratory Sample Delivery Group: 32.81639, -103.7694
Client Project/Site: MCA 308
Revision: 1

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
3/30/2022 11:25:14 AM

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

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

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

Client: WSP USA Inc.
Project/Site: MCA 308

Laboratory Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Table of Contents

Definitions/Glossary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Job ID: 880-12185-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-12185-1

REVISION

The report being provided is a revision of the original report sent on 3/16/2022. The report (revision 1) is being revised due to Per client email corrected sample IDs.

Report revision history

Receipt
The samples were received on 3/8/2022 9:28 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 4.5°C

Receipt Exceptions
Incorrect project name on COC, Correct project name is MCA 308 not MCA 328

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-21146 and analytical batch 880-21440 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 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-21538 and analytical batch 880-21464 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 8021B: The following sample was diluted due to the nature of the sample matrix: BH04 (880-12185-11) at 10.0. Elevated reporting limits (RLs) are provided.

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 880-21196 and 880-21196 and analytical batch 880-21543 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH01

Date Collected: 03/07/22 10:11
Date Received: 03/08/22 09:28
Sample Depth: 1

Lab Sample ID: 880-12185-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 03:22	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 03:22	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 03:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/14/22 12:48	03/15/22 03:22	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 03:22	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/14/22 12:48	03/15/22 03:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*03/14/22 12:48*	*03/15/22 03:22*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*03/14/22 12:48*	*03/15/22 03:22*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			03/14/22 09:05	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		03/09/22 09:11	03/13/22 01:01	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		03/09/22 09:11	03/13/22 01:01	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		03/09/22 09:11	03/13/22 01:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*03/09/22 09:11*	*03/13/22 01:01*	*1*
o-Terphenyl	*117*		*70 - 130*	*03/09/22 09:11*	*03/13/22 01:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**795**	**F1**	5.00		mg/Kg			03/13/22 10:30	1

Client Sample ID: BH01 A

Date Collected: 03/07/22 10:14
Date Received: 03/08/22 09:28
Sample Depth: 2

Lab Sample ID: 880-12185-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 03:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 03:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 03:42	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/14/22 12:48	03/15/22 03:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 03:42	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/14/22 12:48	03/15/22 03:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/14/22 12:48*	*03/15/22 03:42*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH01 A
Date Collected: 03/07/22 10:14
Date Received: 03/08/22 09:28
Sample Depth: 2

Lab Sample ID: 880-12185-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*03/14/22 12:48*	*03/15/22 03:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/14/22 09:05	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		03/09/22 09:11	03/13/22 01:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 01:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 01:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*03/09/22 09:11*	*03/13/22 01:21*	*1*
o-Terphenyl	*122*		*70 - 130*	*03/09/22 09:11*	*03/13/22 01:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**132**		4.95		mg/Kg			03/13/22 10:48	1

Client Sample ID: BH01 B
Date Collected: 03/07/22 10:23
Date Received: 03/08/22 09:28
Sample Depth: 3.5

Lab Sample ID: 880-12185-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 04:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 04:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 04:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/14/22 12:48	03/15/22 04:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 04:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/14/22 12:48	03/15/22 04:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*03/14/22 12:48*	*03/15/22 04:03*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*03/14/22 12:48*	*03/15/22 04:03*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/14/22 09:05	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH01 B
Date Collected: 03/07/22 10:23
Date Received: 03/08/22 09:28
Sample Depth: 3.5

Lab Sample ID: 880-12185-3
Matrix: Solid

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		03/09/22 09:11	03/13/22 01:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 01:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 01:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*03/09/22 09:11*	*03/13/22 01:41*	*1*
o-Terphenyl	*125*		*70 - 130*	*03/09/22 09:11*	*03/13/22 01:41*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**98.0**		4.98		mg/Kg			03/13/22 10:54	1

Client Sample ID: BH02
Date Collected: 03/07/22 10:28
Date Received: 03/08/22 09:28
Sample Depth: 1

Lab Sample ID: 880-12185-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 02:26	50
Toluene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 02:26	50
Ethylbenzene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 02:26	50
m-Xylene & p-Xylene	<0.201	U	0.201		mg/Kg		03/13/22 12:58	03/14/22 02:26	50
o-Xylene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 02:26	50
Xylenes, Total	<0.201	U	0.201		mg/Kg		03/13/22 12:58	03/14/22 02:26	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*03/13/22 12:58*	*03/14/22 02:26*	*50*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*03/13/22 12:58*	*03/14/22 02:26*	*50*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.201	U	0.201		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**624**		49.9		mg/Kg			03/14/22 09:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/09/22 09:11	03/13/22 03:02	1
Diesel Range Organics (Over C10-C28)	**538**		49.9		mg/Kg		03/09/22 09:11	03/13/22 03:02	1
Oil Range Organics (Over C28-C36)	**85.8**		49.9		mg/Kg		03/09/22 09:11	03/13/22 03:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*03/09/22 09:11*	*03/13/22 03:02*	*1*
o-Terphenyl	*106*		*70 - 130*	*03/09/22 09:11*	*03/13/22 03:02*	*1*

Eurofins Midland

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH02
Date Collected: 03/07/22 10:28
Date Received: 03/08/22 09:28
Sample Depth: 1

Lab Sample ID: 880-12185-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	182		4.99		mg/Kg			03/13/22 10:59	1

Client Sample ID: BH02 A
Date Collected: 03/07/22 10:31
Date Received: 03/08/22 09:28
Sample Depth: 2

Lab Sample ID: 880-12185-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 02:47	50
Toluene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 02:47	50
Ethylbenzene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 02:47	50
m-Xylene & p-Xylene	<0.200	U	0.200		mg/Kg		03/13/22 12:58	03/14/22 02:47	50
o-Xylene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 02:47	50
Xylenes, Total	<0.200	U	0.200		mg/Kg		03/13/22 12:58	03/14/22 02:47	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*03/13/22 12:58*	*03/14/22 02:47*	*50*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*03/13/22 12:58*	*03/14/22 02:47*	*50*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.200	U	0.200		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	1066		50.0		mg/Kg			03/14/22 09:05	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	85.9		50.0		mg/Kg		03/09/22 09:11	03/13/22 03:22	1
Diesel Range Organics (Over C10-C28)	835		50.0		mg/Kg		03/09/22 09:11	03/13/22 03:22	1
Oil Range Organics (Over C28-C36)	146		50.0		mg/Kg		03/09/22 09:11	03/13/22 03:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*03/09/22 09:11*	*03/13/22 03:22*	*1*
o-Terphenyl	*104*		*70 - 130*	*03/09/22 09:11*	*03/13/22 03:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	877		4.97		mg/Kg			03/13/22 11:05	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH02 B

Date Collected: 03/07/22 10:40
Date Received: 03/08/22 09:28
Sample Depth: 4

Lab Sample ID: 880-12185-6

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 03:07	50
Toluene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 03:07	50
Ethylbenzene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 03:07	50
m-Xylene & p-Xylene	<0.201	U	0.201		mg/Kg		03/13/22 12:58	03/14/22 03:07	50
o-Xylene	<0.100	U	0.100		mg/Kg		03/13/22 12:58	03/14/22 03:07	50
Xylenes, Total	<0.201	U	0.201		mg/Kg		03/13/22 12:58	03/14/22 03:07	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*03/13/22 12:58*	*03/14/22 03:07*	*50*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*03/13/22 12:58*	*03/14/22 03:07*	*50*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.201	U	0.201		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**197**		50.0		mg/Kg			03/14/22 09:05	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		03/09/22 09:11	03/13/22 03:43	1
Diesel Range Organics (Over C10-C28)	**146**		50.0		mg/Kg		03/09/22 09:11	03/13/22 03:43	1
Oil Range Organics (Over C28-C36)	**51.0**		50.0		mg/Kg		03/09/22 09:11	03/13/22 03:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*03/09/22 09:11*	*03/13/22 03:43*	*1*
o-Terphenyl	*99*		*70 - 130*	*03/09/22 09:11*	*03/13/22 03:43*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**222**		5.04		mg/Kg			03/13/22 11:23	1

Client Sample ID: BH02 C

Date Collected: 03/07/22 10:43
Date Received: 03/08/22 09:28
Sample Depth: 5

Lab Sample ID: 880-12185-7

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		03/14/22 12:48	03/15/22 04:23	1
Toluene	<0.00198	U	0.00198		mg/Kg		03/14/22 12:48	03/15/22 04:23	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		03/14/22 12:48	03/15/22 04:23	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		03/14/22 12:48	03/15/22 04:23	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		03/14/22 12:48	03/15/22 04:23	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		03/14/22 12:48	03/15/22 04:23	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH02 C
Date Collected: 03/07/22 10:43
Date Received: 03/08/22 09:28
Sample Depth: 5

Lab Sample ID: 880-12185-7
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*03/14/22 12:48*	*03/15/22 04:23*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*03/14/22 12:48*	*03/15/22 04:23*	*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			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**115**		49.9		mg/Kg			03/14/22 09:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/09/22 09:11	03/13/22 04:04	1
Diesel Range Organics (Over C10-C28)	**115**		49.9		mg/Kg		03/09/22 09:11	03/13/22 04:04	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/09/22 09:11	03/13/22 04:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*03/09/22 09:11*	*03/13/22 04:04*	*1*
o-Terphenyl	*103*		*70 - 130*	*03/09/22 09:11*	*03/13/22 04:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**189**		4.98		mg/Kg			03/13/22 11:29	1

Client Sample ID: BH03
Date Collected: 03/07/22 12:25
Date Received: 03/08/22 09:28
Sample Depth: 1

Lab Sample ID: 880-12185-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 04:43	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 04:43	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 04:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/14/22 12:48	03/15/22 04:43	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 04:43	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/14/22 12:48	03/15/22 04:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*03/14/22 12:48*	*03/15/22 04:43*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*03/14/22 12:48*	*03/15/22 04:43*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/14/22 09:05	1

Eurofins Midland

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH03
Date Collected: 03/07/22 12:25
Date Received: 03/08/22 09:28
Sample Depth: 1

Lab Sample ID: 880-12185-8
Matrix: Solid

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		03/09/22 09:11	03/13/22 04:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 04:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 04:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*03/09/22 09:11*	*03/13/22 04:46*	*1*
o-Terphenyl	*107*		*70 - 130*	*03/09/22 09:11*	*03/13/22 04:46*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12.8**		4.95		mg/Kg			03/13/22 11:35	1

Client Sample ID: BH03 A
Date Collected: 03/07/22 12:34
Date Received: 03/08/22 09:28
Sample Depth: 3

Lab Sample ID: 880-12185-9
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 05:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 05:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 05:04	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/14/22 12:48	03/15/22 05:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 05:04	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/14/22 12:48	03/15/22 05:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*03/14/22 12:48*	*03/15/22 05:04*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*03/14/22 12:48*	*03/15/22 05:04*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/14/22 09:05	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		03/09/22 09:11	03/13/22 05:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 05:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 05:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*03/09/22 09:11*	*03/13/22 05:07*	*1*
o-Terphenyl	*91*		*70 - 130*	*03/09/22 09:11*	*03/13/22 05:07*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH03 A

Lab Sample ID: 880-12185-9
Matrix: Solid
Date Collected: 03/07/22 12:34
Date Received: 03/08/22 09:28
Sample Depth: 3

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.1		4.98		mg/Kg			03/13/22 11:41	1

Client Sample ID: BH03 B

Lab Sample ID: 880-12185-10
Matrix: Solid
Date Collected: 03/07/22 12:37
Date Received: 03/08/22 09:28
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 05:24	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 05:24	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 05:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/14/22 12:48	03/15/22 05:24	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/14/22 12:48	03/15/22 05:24	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/14/22 12:48	03/15/22 05:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*03/14/22 12:48*	*03/15/22 05:24*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*03/14/22 12:48*	*03/15/22 05:24*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/14/22 09:05	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		03/09/22 09:11	03/13/22 05:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 05:28	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 05:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*03/09/22 09:11*	*03/13/22 05:28*	*1*
o-Terphenyl	*101*		*70 - 130*	*03/09/22 09:11*	*03/13/22 05:28*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	39.3		4.95		mg/Kg			03/13/22 11:46	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH04
Date Collected: 03/07/22 12:58
Date Received: 03/08/22 09:28
Sample Depth: 1

Lab Sample ID: 880-12185-11
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0305**		0.0200		mg/Kg		03/14/22 17:00	03/15/22 17:05	10
Toluene	<0.0200	U	0.0200		mg/Kg		03/14/22 17:00	03/15/22 17:05	10
Ethylbenzene	**0.0457**		0.0200		mg/Kg		03/14/22 17:00	03/15/22 17:05	10
m-Xylene & p-Xylene	<0.0399	U	0.0399		mg/Kg		03/14/22 17:00	03/15/22 17:05	10
o-Xylene	<0.0200	U	0.0200		mg/Kg		03/14/22 17:00	03/15/22 17:05	10
Xylenes, Total	<0.0399	U	0.0399		mg/Kg		03/14/22 17:00	03/15/22 17:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*03/14/22 17:00*	*03/15/22 17:05*	*10*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*03/14/22 17:00*	*03/15/22 17:05*	*10*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0762**		0.0399		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**393**		49.9		mg/Kg			03/14/22 09:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/09/22 09:11	03/13/22 05:49	1
Diesel Range Organics (Over C10-C28)	**342**		49.9		mg/Kg		03/09/22 09:11	03/13/22 05:49	1
Oil Range Organics (Over C28-C36)	**51.0**		49.9		mg/Kg		03/09/22 09:11	03/13/22 05:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*03/09/22 09:11*	*03/13/22 05:49*	*1*
o-Terphenyl	*101*		*70 - 130*	*03/09/22 09:11*	*03/13/22 05:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**248**	**F1**	5.04		mg/Kg			03/13/22 11:52	1

Client Sample ID: BH04 A
Date Collected: 03/07/22 13:07
Date Received: 03/08/22 09:28
Sample Depth: 3

Lab Sample ID: 880-12185-12
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		03/13/22 12:58	03/14/22 02:06	1
Toluene	**0.00214**		0.00198		mg/Kg		03/13/22 12:58	03/14/22 02:06	1
Ethylbenzene	**0.00881**		0.00198		mg/Kg		03/13/22 12:58	03/14/22 02:06	1
m-Xylene & p-Xylene	**0.0141**		0.00396		mg/Kg		03/13/22 12:58	03/14/22 02:06	1
o-Xylene	**0.00956**		0.00198		mg/Kg		03/13/22 12:58	03/14/22 02:06	1
Xylenes, Total	**0.0237**		0.00396		mg/Kg		03/13/22 12:58	03/14/22 02:06	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH04 A

Lab Sample ID: 880-12185-12
Matrix: Solid
Date Collected: 03/07/22 13:07
Date Received: 03/08/22 09:28
Sample Depth: 3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	03/13/22 12:58	03/14/22 02:06	1
1,4-Difluorobenzene (Surr)	94		70 - 130	03/13/22 12:58	03/14/22 02:06	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0346**		0.00396		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**275**		49.9		mg/Kg			03/14/22 09:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/09/22 09:11	03/13/22 06:09	1
Diesel Range Organics (Over C10-C28)	**275**		49.9		mg/Kg		03/09/22 09:11	03/13/22 06:09	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/09/22 09:11	03/13/22 06:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	03/09/22 09:11	03/13/22 06:09	1
o-Terphenyl	93		70 - 130	03/09/22 09:11	03/13/22 06:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**151**		5.04		mg/Kg			03/13/22 12:10	1

Client Sample ID: BH04 B

Lab Sample ID: 880-12185-13
Matrix: Solid
Date Collected: 03/07/22 13:11
Date Received: 03/08/22 09:28
Sample Depth: 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		03/14/22 12:48	03/15/22 05:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 05:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 05:45	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/14/22 12:48	03/15/22 05:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/15/22 05:45	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/14/22 12:48	03/15/22 05:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	03/14/22 12:48	03/15/22 05:45	1
1,4-Difluorobenzene (Surr)	95		70 - 130	03/14/22 12:48	03/15/22 05:45	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			03/14/22 14:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**96.6**		50.0		mg/Kg			03/14/22 09:05	1

Eurofins Midland

Client Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH04 B

Date Collected: 03/07/22 13:11
Date Received: 03/08/22 09:28
Sample Depth: 4

Lab Sample ID: 880-12185-13

Matrix: Solid

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		03/09/22 09:11	03/13/22 06:30	1
Diesel Range Organics (Over C10-C28)	**96.6**		50.0		mg/Kg		03/09/22 09:11	03/13/22 06:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/13/22 06:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*03/09/22 09:11*	*03/13/22 06:30*	*1*
o-Terphenyl	*102*		*70 - 130*	*03/09/22 09:11*	*03/13/22 06:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26.2**		4.95		mg/Kg			03/13/22 12:16	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-12097-A-1-S MS	Matrix Spike	102	114
880-12097-A-1-T MSD	Matrix Spike Duplicate	98	103
880-12185-1	BH01	102	96
880-12185-2	BH01 A	97	99
880-12185-3	BH01 B	103	110
880-12185-4	BH02	93	89
880-12185-5	BH02 A	90	90
880-12185-6	BH02 B	100	96
880-12185-7	BH02 C	107	109
880-12185-8	BH03	104	109
880-12185-9	BH03 A	101	108
880-12185-10	BH03 B	104	108
880-12185-11	BH04	67 S1-	109
880-12185-12	BH04 A	123	94
880-12185-13	BH04 B	97	95
880-12263-A-1-H MS	Matrix Spike	112	95
880-12263-A-1-I MSD	Matrix Spike Duplicate	2911 S1+	176 S1+
890-2056-A-1-J MS	Matrix Spike	107	101
890-2056-A-1-K MSD	Matrix Spike Duplicate	107	108
LCS 880-21146/1-A	Lab Control Sample	94	98
LCS 880-21301/1-A	Lab Control Sample	105	113
LCS 880-21538/1-A	Lab Control Sample	99	111
LCSD 880-21146/2-A	Lab Control Sample Dup	97	101
LCSD 880-21301/2-A	Lab Control Sample Dup	105	113
LCSD 880-21538/2-A	Lab Control Sample Dup	101	111
MB 880-21012/5-A	Method Blank	95	100
MB 880-21146/5-A	Method Blank	97	99
MB 880-21301/5-A	Method Blank	101	104
MB 880-21455/5-A	Method Blank	100	103
MB 880-21538/5-A	Method Blank	102	104

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-12099-A-1-G MS	Matrix Spike	106	99
880-12099-A-1-H MSD	Matrix Spike Duplicate	108	105
880-12185-1	BH01	110	117
880-12185-2	BH01 A	125	122
880-12185-3	BH01 B	123	125
880-12185-4	BH02	111	106
880-12185-5	BH02 A	111	104
880-12185-6	BH02 B	102	99
880-12185-7	BH02 C	104	103

Surrogate Summary

Client: WSP USA Inc. Job ID: 880-12185-1
Project/Site: MCA 308 SDG: 32.81639, -103.7694

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
880-12185-8	BH03	110	107								
880-12185-9	BH03 A	98	91								
880-12185-10	BH03 B	107	101								
880-12185-11	BH04	107	101								
880-12185-12	BH04 A	101	93								
880-12185-13	BH04 B	106	102								
LCS 880-21189/2-A	Lab Control Sample	116	119								
LCSD 880-21189/3-A	Lab Control Sample Dup	112	117								
MB 880-21189/1-A	Method Blank	105	117								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21012/5-A
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21012

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/11/22 16:00	03/13/22 07:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/11/22 16:00	03/13/22 07:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*03/11/22 16:00*	*03/13/22 07:08*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/11/22 16:00*	*03/13/22 07:08*	*1*

Lab Sample ID: MB 880-21146/5-A
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21146

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:58	03/13/22 19:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/13/22 12:58	03/13/22 19:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/13/22 12:58*	*03/13/22 19:01*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*03/13/22 12:58*	*03/13/22 19:01*	*1*

Lab Sample ID: LCS 880-21146/1-A
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21146

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09993		mg/Kg		100	70 - 130		
Toluene			0.100	0.09490		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.09416		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.2203		mg/Kg		110	70 - 130		
o-Xylene			0.100	0.1080		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-21146/2-A
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21146

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1051		mg/Kg		105	70 - 130	5	35

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

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

Lab Sample ID: LCSD 880-21146/2-A
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21146

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene			0.100	0.1004		mg/Kg		100	70 - 130	6	35
Ethylbenzene			0.100	0.09886		mg/Kg		99	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2316		mg/Kg		116	70 - 130	5	35
o-Xylene			0.100	0.1131		mg/Kg		113	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-12263-A-1-H MS
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 21146

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00199	U F1	0.100	0.04828	F1	mg/Kg		48	70 - 130
Toluene	<0.00199	U F2 F1	0.100	0.05479	F1	mg/Kg		54	70 - 130
Ethylbenzene	<0.00199	U F2 F1	0.100	0.06147	F1	mg/Kg		61	70 - 130
m-Xylene & p-Xylene	<0.00398	U F2 F1	0.200	0.1430		mg/Kg		71	70 - 130
o-Xylene	<0.00199	U F2 F1	0.100	0.07492		mg/Kg		75	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-12263-A-1-I MSD
Matrix: Solid
Analysis Batch: 21440

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 21146

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0996	0.04152	F1	mg/Kg		42	70 - 130	15	35
Toluene	<0.00199	U F2 F1	0.0996	0.002562	F2 F1	mg/Kg		2	70 - 130	182	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*2911*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*176*	*S1+*	*70 - 130*

Lab Sample ID: MB 880-21301/5-A
Matrix: Solid
Analysis Batch: 21616

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21301

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 17:00	03/15/22 12:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 17:00	03/15/22 12:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 17:00	03/15/22 12:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/14/22 17:00	03/15/22 12:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 17:00	03/15/22 12:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/14/22 17:00	03/15/22 12:00	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

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

Lab Sample ID: MB 880-21301/5-A
Matrix: Solid
Analysis Batch: 21616

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21301

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	03/14/22 17:00	03/15/22 12:00	1
1,4-Difluorobenzene (Surr)	104		70 - 130	03/14/22 17:00	03/15/22 12:00	1

Lab Sample ID: LCS 880-21301/1-A
Matrix: Solid
Analysis Batch: 21616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21301

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1156		mg/Kg		116	70 - 130		
Toluene			0.100	0.1138		mg/Kg		114	70 - 130		
Ethylbenzene			0.100	0.1135		mg/Kg		113	70 - 130		
m-Xylene & p-Xylene			0.200	0.2358		mg/Kg		118	70 - 130		
o-Xylene			0.100	0.1139		mg/Kg		114	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: LCSD 880-21301/2-A
Matrix: Solid
Analysis Batch: 21616

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21301

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1199		mg/Kg		120	70 - 130	4	35
Toluene			0.100	0.1164		mg/Kg		116	70 - 130	2	35
Ethylbenzene			0.100	0.1167		mg/Kg		117	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2424		mg/Kg		121	70 - 130	3	35
o-Xylene			0.100	0.1168		mg/Kg		117	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: 890-2056-A-1-J MS
Matrix: Solid
Analysis Batch: 21616

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 21301

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00202	U	0.100	0.09586		mg/Kg		96	70 - 130		
Toluene	<0.00202	U	0.100	0.09995		mg/Kg		99	70 - 130		
Ethylbenzene	<0.00202	U	0.100	0.1044		mg/Kg		104	70 - 130		
m-Xylene & p-Xylene	<0.00403	U	0.200	0.2163		mg/Kg		108	70 - 130		
o-Xylene	<0.00202	U	0.100	0.1053		mg/Kg		105	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

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

Lab Sample ID: 890-2056-A-1-K MSD
Matrix: Solid
Analysis Batch: 21616

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 21301

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0992	0.08561		mg/Kg		86	70 - 130	11	35
Toluene	<0.00202	U	0.0992	0.08397		mg/Kg		84	70 - 130	17	35
Ethylbenzene	<0.00202	U	0.0992	0.08329		mg/Kg		83	70 - 130	22	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1752		mg/Kg		88	70 - 130	21	35
o-Xylene	<0.00202	U	0.0992	0.08560		mg/Kg		86	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: MB 880-21455/5-A
Matrix: Solid
Analysis Batch: 21464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21455

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:38	03/14/22 11:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:38	03/14/22 11:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:38	03/14/22 11:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/13/22 12:38	03/14/22 11:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/13/22 12:38	03/14/22 11:20	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/13/22 12:38	03/14/22 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*03/13/22 12:38*	*03/14/22 11:20*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*03/13/22 12:38*	*03/14/22 11:20*	*1*

Lab Sample ID: MB 880-21538/5-A
Matrix: Solid
Analysis Batch: 21464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21538

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/14/22 22:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/14/22 22:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/14/22 22:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/14/22 12:48	03/14/22 22:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/14/22 12:48	03/14/22 22:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/14/22 12:48	03/14/22 22:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*03/14/22 12:48*	*03/14/22 22:13*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*03/14/22 12:48*	*03/14/22 22:13*	*1*

Lab Sample ID: LCS 880-21538/1-A
Matrix: Solid
Analysis Batch: 21464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09930		mg/Kg		99	70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

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

Lab Sample ID: LCS 880-21538/1-A
Matrix: Solid
Analysis Batch: 21464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	0.100	0.09612		mg/Kg		96	70 - 130
Ethylbenzene	0.100	0.09423		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1967		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09636		mg/Kg		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: LCSD 880-21538/2-A
Matrix: Solid
Analysis Batch: 21464

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21538

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09990		mg/Kg		100	70 - 130	1	35
Toluene	0.100	0.09719		mg/Kg		97	70 - 130	1	35
Ethylbenzene	0.100	0.09615		mg/Kg		96	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.2013		mg/Kg		101	70 - 130	2	35
o-Xylene	0.100	0.09817		mg/Kg		98	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 880-12097-A-1-S MS
Matrix: Solid
Analysis Batch: 21464

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 21538

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00202	U F1 F2	0.0996	0.05823	F1	mg/Kg		58	70 - 130
Toluene	<0.00202	U F1	0.0996	0.03943	F1	mg/Kg		40	70 - 130
Ethylbenzene	<0.00202	U F1	0.0996	0.02269	F1	mg/Kg		23	70 - 130
m-Xylene & p-Xylene	<0.00403	U F1	0.199	0.04966	F1	mg/Kg		25	70 - 130
o-Xylene	<0.00202	U F1	0.0996	0.02444	F1	mg/Kg		25	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 880-12097-A-1-T MSD
Matrix: Solid
Analysis Batch: 21464

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 21538

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00202	U F1 F2	0.100	0.03510	F1 F2	mg/Kg		35	70 - 130	50	35
Toluene	<0.00202	U F1	0.100	0.03202	F1	mg/Kg		32	70 - 130	21	35
Ethylbenzene	<0.00202	U F1	0.100	0.02400	F1	mg/Kg		24	70 - 130	6	35
m-Xylene & p-Xylene	<0.00403	U F1	0.200	0.05301	F1	mg/Kg		26	70 - 130	7	35

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

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

Lab Sample ID: 880-12097-A-1-T MSD
Matrix: Solid
Analysis Batch: 21464

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 21538

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	<0.00202	U F1	0.100	0.02706	F1	mg/Kg		27	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

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

Lab Sample ID: MB 880-21189/1-A
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21189

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/09/22 09:11	03/12/22 22:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*03/09/22 09:11*	*03/12/22 22:12*	*1*
o-Terphenyl	*117*		*70 - 130*	*03/09/22 09:11*	*03/12/22 22:12*	*1*

Lab Sample ID: LCS 880-21189/2-A
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21189

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	966.2		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1043		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Lab Sample ID: LCSD 880-21189/3-A
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21189

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	930.7		mg/Kg		93	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1055		mg/Kg		106	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

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

Lab Sample ID: LCSD 880-21189/3-A
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21189

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: 880-12099-A-1-G MS
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 21189

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1136		mg/Kg		111	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1159		mg/Kg		116	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: 880-12099-A-1-H MSD
Matrix: Solid
Analysis Batch: 21427

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 21189

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	1112		mg/Kg		108	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1215		mg/Kg		122	70 - 130	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-21196/1-A
Matrix: Solid
Analysis Batch: 21543

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/13/22 10:12	1

Lab Sample ID: LCS 880-21196/2-A
Matrix: Solid
Analysis Batch: 21543

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			250	234.8		mg/Kg		94	90 - 110

QC Sample Results

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-21196/3-A
Matrix: Solid
Analysis Batch: 21543

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	237.3		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 880-12185-1 MS
Matrix: Solid
Analysis Batch: 21543

Client Sample ID: BH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	795	F1	250	947.5	F1	mg/Kg		61	90 - 110		

Lab Sample ID: 880-12185-1 MSD
Matrix: Solid
Analysis Batch: 21543

Client Sample ID: BH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	795	F1	250	965.8	F1	mg/Kg		68	90 - 110	2	20

Lab Sample ID: 880-12185-11 MS
Matrix: Solid
Analysis Batch: 21543

Client Sample ID: BH04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	248	F1	252	466.4	F1	mg/Kg		87	90 - 110		

Lab Sample ID: 880-12185-11 MSD
Matrix: Solid
Analysis Batch: 21543

Client Sample ID: BH04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	248	F1	252	474.5		mg/Kg		90	90 - 110	2	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

GC VOA

Prep Batch: 21012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21012/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 21146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-4	BH02	Total/NA	Solid	5035	
880-12185-5	BH02 A	Total/NA	Solid	5035	
880-12185-6	BH02 B	Total/NA	Solid	5035	
880-12185-12	BH04 A	Total/NA	Solid	5035	
MB 880-21146/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21146/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21146/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12263-A-1-H MS	Matrix Spike	Total/NA	Solid	5035	
880-12263-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 21301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-11	BH04	Total/NA	Solid	5035	
MB 880-21301/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21301/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21301/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2056-A-1-J MS	Matrix Spike	Total/NA	Solid	5035	
890-2056-A-1-K MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 21440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-4	BH02	Total/NA	Solid	8021B	21146
880-12185-5	BH02 A	Total/NA	Solid	8021B	21146
880-12185-6	BH02 B	Total/NA	Solid	8021B	21146
880-12185-12	BH04 A	Total/NA	Solid	8021B	21146
MB 880-21012/5-A	Method Blank	Total/NA	Solid	8021B	21012
MB 880-21146/5-A	Method Blank	Total/NA	Solid	8021B	21146
LCS 880-21146/1-A	Lab Control Sample	Total/NA	Solid	8021B	21146
LCSD 880-21146/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21146
880-12263-A-1-H MS	Matrix Spike	Total/NA	Solid	8021B	21146
880-12263-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21146

Prep Batch: 21455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21455/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 21464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-1	BH01	Total/NA	Solid	8021B	21538
880-12185-2	BH01 A	Total/NA	Solid	8021B	21538
880-12185-3	BH01 B	Total/NA	Solid	8021B	21538
880-12185-7	BH02 C	Total/NA	Solid	8021B	21538
880-12185-8	BH03	Total/NA	Solid	8021B	21538
880-12185-9	BH03 A	Total/NA	Solid	8021B	21538
880-12185-10	BH03 B	Total/NA	Solid	8021B	21538
880-12185-13	BH04 B	Total/NA	Solid	8021B	21538
MB 880-21455/5-A	Method Blank	Total/NA	Solid	8021B	21455

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

GC VOA (Continued)

Analysis Batch: 21464 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21538/5-A	Method Blank	Total/NA	Solid	8021B	21538
LCS 880-21538/1-A	Lab Control Sample	Total/NA	Solid	8021B	21538
LCSD 880-21538/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21538
880-12097-A-1-S MS	Matrix Spike	Total/NA	Solid	8021B	21538
880-12097-A-1-T MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21538

Prep Batch: 21538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-1	BH01	Total/NA	Solid	5035	
880-12185-2	BH01 A	Total/NA	Solid	5035	
880-12185-3	BH01 B	Total/NA	Solid	5035	
880-12185-7	BH02 C	Total/NA	Solid	5035	
880-12185-8	BH03	Total/NA	Solid	5035	
880-12185-9	BH03 A	Total/NA	Solid	5035	
880-12185-10	BH03 B	Total/NA	Solid	5035	
880-12185-13	BH04 B	Total/NA	Solid	5035	
MB 880-21538/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21538/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21538/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12097-A-1-S MS	Matrix Spike	Total/NA	Solid	5035	
880-12097-A-1-T MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 21557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-1	BH01	Total/NA	Solid	Total BTEX	
880-12185-2	BH01 A	Total/NA	Solid	Total BTEX	
880-12185-3	BH01 B	Total/NA	Solid	Total BTEX	
880-12185-4	BH02	Total/NA	Solid	Total BTEX	
880-12185-5	BH02 A	Total/NA	Solid	Total BTEX	
880-12185-6	BH02 B	Total/NA	Solid	Total BTEX	
880-12185-7	BH02 C	Total/NA	Solid	Total BTEX	
880-12185-8	BH03	Total/NA	Solid	Total BTEX	
880-12185-9	BH03 A	Total/NA	Solid	Total BTEX	
880-12185-10	BH03 B	Total/NA	Solid	Total BTEX	
880-12185-11	BH04	Total/NA	Solid	Total BTEX	
880-12185-12	BH04 A	Total/NA	Solid	Total BTEX	
880-12185-13	BH04 B	Total/NA	Solid	Total BTEX	

Analysis Batch: 21616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-11	BH04	Total/NA	Solid	8021B	21301
MB 880-21301/5-A	Method Blank	Total/NA	Solid	8021B	21301
LCS 880-21301/1-A	Lab Control Sample	Total/NA	Solid	8021B	21301
LCSD 880-21301/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21301
890-2056-A-1-J MS	Matrix Spike	Total/NA	Solid	8021B	21301
890-2056-A-1-K MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21301

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

GC Semi VOA

Prep Batch: 21189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-1	BH01	Total/NA	Solid	8015NM Prep	
880-12185-2	BH01 A	Total/NA	Solid	8015NM Prep	
880-12185-3	BH01 B	Total/NA	Solid	8015NM Prep	
880-12185-4	BH02	Total/NA	Solid	8015NM Prep	
880-12185-5	BH02 A	Total/NA	Solid	8015NM Prep	
880-12185-6	BH02 B	Total/NA	Solid	8015NM Prep	
880-12185-7	BH02 C	Total/NA	Solid	8015NM Prep	
880-12185-8	BH03	Total/NA	Solid	8015NM Prep	
880-12185-9	BH03 A	Total/NA	Solid	8015NM Prep	
880-12185-10	BH03 B	Total/NA	Solid	8015NM Prep	
880-12185-11	BH04	Total/NA	Solid	8015NM Prep	
880-12185-12	BH04 A	Total/NA	Solid	8015NM Prep	
880-12185-13	BH04 B	Total/NA	Solid	8015NM Prep	
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 21427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-1	BH01	Total/NA	Solid	8015B NM	21189
880-12185-2	BH01 A	Total/NA	Solid	8015B NM	21189
880-12185-3	BH01 B	Total/NA	Solid	8015B NM	21189
880-12185-4	BH02	Total/NA	Solid	8015B NM	21189
880-12185-5	BH02 A	Total/NA	Solid	8015B NM	21189
880-12185-6	BH02 B	Total/NA	Solid	8015B NM	21189
880-12185-7	BH02 C	Total/NA	Solid	8015B NM	21189
880-12185-8	BH03	Total/NA	Solid	8015B NM	21189
880-12185-9	BH03 A	Total/NA	Solid	8015B NM	21189
880-12185-10	BH03 B	Total/NA	Solid	8015B NM	21189
880-12185-11	BH04	Total/NA	Solid	8015B NM	21189
880-12185-12	BH04 A	Total/NA	Solid	8015B NM	21189
880-12185-13	BH04 B	Total/NA	Solid	8015B NM	21189
MB 880-21189/1-A	Method Blank	Total/NA	Solid	8015B NM	21189
LCS 880-21189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21189
LCSD 880-21189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21189
880-12099-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	21189
880-12099-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21189

Analysis Batch: 21484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-1	BH01	Total/NA	Solid	8015 NM	
880-12185-2	BH01 A	Total/NA	Solid	8015 NM	
880-12185-3	BH01 B	Total/NA	Solid	8015 NM	
880-12185-4	BH02	Total/NA	Solid	8015 NM	
880-12185-5	BH02 A	Total/NA	Solid	8015 NM	
880-12185-6	BH02 B	Total/NA	Solid	8015 NM	
880-12185-7	BH02 C	Total/NA	Solid	8015 NM	
880-12185-8	BH03	Total/NA	Solid	8015 NM	
880-12185-9	BH03 A	Total/NA	Solid	8015 NM	

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

GC Semi VOA (Continued)

Analysis Batch: 21484 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-10	BH03 B	Total/NA	Solid	8015 NM	
880-12185-11	BH04	Total/NA	Solid	8015 NM	
880-12185-12	BH04 A	Total/NA	Solid	8015 NM	
880-12185-13	BH04 B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 21196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-1	BH01	Soluble	Solid	DI Leach	
880-12185-2	BH01 A	Soluble	Solid	DI Leach	
880-12185-3	BH01 B	Soluble	Solid	DI Leach	
880-12185-4	BH02	Soluble	Solid	DI Leach	
880-12185-5	BH02 A	Soluble	Solid	DI Leach	
880-12185-6	BH02 B	Soluble	Solid	DI Leach	
880-12185-7	BH02 C	Soluble	Solid	DI Leach	
880-12185-8	BH03	Soluble	Solid	DI Leach	
880-12185-9	BH03 A	Soluble	Solid	DI Leach	
880-12185-10	BH03 B	Soluble	Solid	DI Leach	
880-12185-11	BH04	Soluble	Solid	DI Leach	
880-12185-12	BH04 A	Soluble	Solid	DI Leach	
880-12185-13	BH04 B	Soluble	Solid	DI Leach	
MB 880-21196/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-21196/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-21196/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-12185-1 MS	BH01	Soluble	Solid	DI Leach	
880-12185-1 MSD	BH01	Soluble	Solid	DI Leach	
880-12185-11 MS	BH04	Soluble	Solid	DI Leach	
880-12185-11 MSD	BH04	Soluble	Solid	DI Leach	

Analysis Batch: 21543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-1	BH01	Soluble	Solid	300.0	21196
880-12185-2	BH01 A	Soluble	Solid	300.0	21196
880-12185-3	BH01 B	Soluble	Solid	300.0	21196
880-12185-4	BH02	Soluble	Solid	300.0	21196
880-12185-5	BH02 A	Soluble	Solid	300.0	21196
880-12185-6	BH02 B	Soluble	Solid	300.0	21196
880-12185-7	BH02 C	Soluble	Solid	300.0	21196
880-12185-8	BH03	Soluble	Solid	300.0	21196
880-12185-9	BH03 A	Soluble	Solid	300.0	21196
880-12185-10	BH03 B	Soluble	Solid	300.0	21196
880-12185-11	BH04	Soluble	Solid	300.0	21196
880-12185-12	BH04 A	Soluble	Solid	300.0	21196
880-12185-13	BH04 B	Soluble	Solid	300.0	21196
MB 880-21196/1-A	Method Blank	Soluble	Solid	300.0	21196
LCS 880-21196/2-A	Lab Control Sample	Soluble	Solid	300.0	21196
LCSD 880-21196/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	21196
880-12185-1 MS	BH01	Soluble	Solid	300.0	21196
880-12185-1 MSD	BH01	Soluble	Solid	300.0	21196
880-12185-11 MS	BH04	Soluble	Solid	300.0	21196

QC Association Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

HPLC/IC (Continued)

Analysis Batch: 21543 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-12185-11 MSD	BH04	Soluble	Solid	300.0	21196

Lab Chronicle

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH01
Date Collected: 03/07/22 10:11
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	21538	03/14/22 12:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21464	03/15/22 03:22	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 01:01	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 10:30	CH	XEN MID

Client Sample ID: BH01 A
Date Collected: 03/07/22 10:14
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	21538	03/14/22 12:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21464	03/15/22 03:42	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 01:21	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 10:48	CH	XEN MID

Client Sample ID: BH01 B
Date Collected: 03/07/22 10:23
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	21538	03/14/22 12:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21464	03/15/22 04:03	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 01:41	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 10:54	CH	XEN MID

Client Sample ID: BH02
Date Collected: 03/07/22 10:28
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	21146	03/13/22 12:58	KL	XEN MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	21440	03/14/22 02:26	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID

Lab Chronicle

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH02
Date Collected: 03/07/22 10:28
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 03:02	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 10:59	CH	XEN MID

Client Sample ID: BH02 A
Date Collected: 03/07/22 10:31
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	21146	03/13/22 12:58	KL	XEN MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	21440	03/14/22 02:47	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 03:22	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 11:05	CH	XEN MID

Client Sample ID: BH02 B
Date Collected: 03/07/22 10:40
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	21146	03/13/22 12:58	KL	XEN MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	21440	03/14/22 03:07	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 03:43	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 11:23	CH	XEN MID

Client Sample ID: BH02 C
Date Collected: 03/07/22 10:43
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	21538	03/14/22 12:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21464	03/15/22 04:23	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 04:04	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH02 C
Date Collected: 03/07/22 10:43
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 11:29	CH	XEN MID

Client Sample ID: BH03
Date Collected: 03/07/22 12:25
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	21538	03/14/22 12:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21464	03/15/22 04:43	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 04:46	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 11:35	CH	XEN MID

Client Sample ID: BH03 A
Date Collected: 03/07/22 12:34
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	21538	03/14/22 12:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21464	03/15/22 05:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 05:07	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 11:41	CH	XEN MID

Client Sample ID: BH03 B
Date Collected: 03/07/22 12:37
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	21538	03/14/22 12:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21464	03/15/22 05:24	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 05:28	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 11:46	CH	XEN MID

Lab Chronicle

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Client Sample ID: BH04
Date Collected: 03/07/22 12:58
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	21301	03/14/22 17:00	KL	XEN MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	21616	03/15/22 17:05	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 05:49	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 11:52	CH	XEN MID

Client Sample ID: BH04 A
Date Collected: 03/07/22 13:07
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	21146	03/13/22 12:58	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21440	03/14/22 02:06	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 06:09	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 12:10	CH	XEN MID

Client Sample ID: BH04 B
Date Collected: 03/07/22 13:11
Date Received: 03/08/22 09:28

Lab Sample ID: 880-12185-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	21538	03/14/22 12:48	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	21464	03/15/22 05:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21557	03/14/22 14:33	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21484	03/14/22 09:05	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21189	03/09/22 09:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21427	03/13/22 06:30	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	21196	03/09/22 09:45	SC	XEN MID
Soluble	Analysis	300.0		1			21543	03/13/22 12:16	CH	XEN MID

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: MCA 308

Job ID: 880-12185-1
SDG: 32.81639, -103.7694

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-12185-1	BH01	Solid	03/07/22 10:11	03/08/22 09:28	1
880-12185-2	BH01 A	Solid	03/07/22 10:14	03/08/22 09:28	2
880-12185-3	BH01 B	Solid	03/07/22 10:23	03/08/22 09:28	3.5
880-12185-4	BH02	Solid	03/07/22 10:28	03/08/22 09:28	1
880-12185-5	BH02 A	Solid	03/07/22 10:31	03/08/22 09:28	2
880-12185-6	BH02 B	Solid	03/07/22 10:40	03/08/22 09:28	4
880-12185-7	BH02 C	Solid	03/07/22 10:43	03/08/22 09:28	5
880-12185-8	BH03	Solid	03/07/22 12:25	03/08/22 09:28	1
880-12185-9	BH03 A	Solid	03/07/22 12:34	03/08/22 09:28	3
880-12185-10	BH03 B	Solid	03/07/22 12:37	03/08/22 09:28	4
880-12185-11	BH04	Solid	03/07/22 12:58	03/08/22 09:28	1
880-12185-12	BH04 A	Solid	03/07/22 13:07	03/08/22 09:28	3
880-12185-13	BH04 B	Solid	03/07/22 13:11	03/08/22 09:28	4

Chain of Custody

Houston TX (281) 240-4200 Dallas TX (214) 902-0300 San Antonio TX (210) 509-3334
Midland TX (432) 704-5440 EL Paso TX (915) 585-3443 Lubbock TX (806) 794-1296
Hobbs NM (575) 392 7550 Carlsbad NM (575) 988-3199 Phoenix AZ (480) 355-0900
Tampa FL (813) 620-2000 Tallahassee FL (850) 756-0747 Delray Beach FL (561) 689-6701
Atlanta GA (770) 449-8800
www.xenco.com

Work Order No: 12185

Project Manager	Kalei Jennings	Bill to (if different)	Kalei Jennings
Company Name	WSP USA Inc.	Company Name	WSP USA Inc.
Address	3300 North A Street, Bldg 1, Unit 222	Address	
City, State ZIP	Midland, TX 79705	City State ZIP	
Phone	817-683-2503	Email	Kalei.Jennings@wsp.com

Work Order Comments

Program UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project
Reporting Level II ◯ Level III ☐ PST/US ☐ TRRP ☐ Level IV ☐
Deliverables EDD ◯ ADaPT ☐ Other

Project Name	MCA 328	Turn Around	
Project Number	31403720.000	Routine	☒
Project Location	32.81639, -103.7694	Rush	☐
Sampler's Name	Hadlie Green	Due Date	5 DAY
PO #			

SAMPLE RECEIPT			
Temp Blank	Yes No	Wet Ice	Yes No
Temperature (°C)	4.0/4.5	Thermometer ID	IR8
Received Intact:	Yes No		
Cooler Custody Seals	Yes No N/A	Correction Factor	1
Sample Custody Seals	Yes No N/A	Total Containers	

ANALYSIS REQUEST

Preservative Codes

HNO3 HN
H2S04 H2
HCL HL
None NO
NaOH Na
MeOH Me
Zn Acetate+ NaOH Zn

TAT starts the day recevied by the lab if received by 4 30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	BTEX (EPA 8021)	TPH (EPA 8015)	CHLORIDES (EPA 300)	Sample Comments
BH01	SL	3-7-22	10:11	1	1	X	X	X	407
BH01A			10:14	2					
BH01B			10:23	3.5					
BH02			10:28	1					
BH02A			10:31	2					
BH02B			10:40	4					
BH02C			10:43	5					
BH03			12:25	1					
BH03A			12:34	3					
BH03B			12:37	4					

880-12185 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** Hg

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

	Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1	Hadlie Green		3/8/22 9:28	2		
3				4		
5				6		

Revised Date101419 Rev 2019 1

Chain of Custody

Houston TX (281) 240-4200 Dallas TX (214) 902-0300 San Antonio TX (210) 509-3334
Midland TX (432) 704-5440 EL Paso TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs NM (575) 392 7550 Carlsbad NM (575) 988-3199 Phoenix, AZ (480) 355-0900
Tampa FL (813) 620-2000 Tallahassee FL (850) 756-0747 Delray Beach FL (561) 689-6701
Atlanta GA (770) 449-8800
www.xenco.com

Work Order No: 12185

Project Manager	Kalei Jennings	Bill to (if different)	Kalei Jennings
Company Name	WSP USA Inc.	Company Name	WSP USA Inc
Address	3300 North A Street, Bldg 1, Unit 222	Address	
City State ZIP	Midland, TX 79705	City State ZIP	
Phone	817-683-2503 Email		Kalei.Jennings@wsp.com

Work Order Comments

Program. UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting Level I (circled) Level II ☐ PST/USTs ☐ TRRP ☐ Level IV ☐
Deliverables EDD (circled) ADaPT ☐ Other:

Project Name	MCA 328	Turn Around	
Project Number	31403720.000	Routine	☒
Project Location	32.81639, -103.7694	Rush	☐
Sampler's Name	Hadlie Green	Due Date	5 DAY
PO #			

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

Preservative Codes

HNO3 HN
H2S04 H2
HCL HL
None NO
NaOH Na
MeOH Me
Zn Acetate+ NaOH Zn

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	BTEX (EPA 8021)	TPH (EPA 8015)	CHLORIDES (EPA 300)	Sample Comments
BH04	SL	3-7-22	12:50	1	1	X	X	X	
BH04A	↓	↓	13:07	3	↓	↓	↓	↓	
BH04B	↓	↓	13:11	4	↓	↓	↓	↓	

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

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1 Hadlie Green		3/8/22 9:28	2		
3			4		
5			6		

Revised Date101419 Rev 2019.1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 880-12185-1
SDG Number: 32.81639, -103.7694

Login Number: 12185
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

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

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-16372-1
Client Project/Site: MCA 308

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
6/29/2022 3:37:49 PM

Jessica Kramer, Project Manager
(432)704-5440
Jessica.Kramer@et.eurofinsus.com

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

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

Client: Ensolum
Project/Site: MCA 308

Laboratory Job ID: 880-16372-1

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 880-16372-1
Project/Site: MCA 308

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Job ID: 880-16372-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-16372-1

Receipt
The samples were received on 6/28/2022 9:54 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 0.3°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: Surrogate recovery for the following sample was outside control limits: (LCSD 880-28577/3-A). 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: FS01 (880-16372-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-28577 and analytical batch 880-28522 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.

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Client Sample ID: FS01

Date Collected: 06/27/22 10:50
Date Received: 06/28/22 09:54
Sample Depth: 2.5

Lab Sample ID: 880-16372-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/28/22 16:05	06/28/22 23:43	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/28/22 16:05	06/28/22 23:43	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/28/22 16:05	06/28/22 23:43	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/28/22 16:05	06/28/22 23:43	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/28/22 16:05	06/28/22 23:43	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/28/22 16:05	06/28/22 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*06/28/22 16:05*	*06/28/22 23:43*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*06/28/22 16:05*	*06/28/22 23:43*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/29/22 09:18	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			06/29/22 11:12	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/28/22 16:43	06/29/22 04:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/28/22 16:43	06/29/22 04:59	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/22 16:43	06/29/22 04:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*06/28/22 16:43*	*06/29/22 04:59*	*1*
o-Terphenyl	*120*		*70 - 130*	*06/28/22 16:43*	*06/29/22 04:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**23.4**		4.95		mg/Kg			06/28/22 23:21	1

Client Sample ID: FS02

Date Collected: 06/27/22 11:05
Date Received: 06/28/22 09:54
Sample Depth: 2.5

Lab Sample ID: 880-16372-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 00:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 00:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 00:03	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/28/22 16:05	06/29/22 00:03	1
o-Xylene	**0.00219**		0.00200		mg/Kg		06/28/22 16:05	06/29/22 00:03	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/28/22 16:05	06/29/22 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*06/28/22 16:05*	*06/29/22 00:03*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Client Sample ID: FS02

Date Collected: 06/27/22 11:05
Date Received: 06/28/22 09:54
Sample Depth: 2.5

Lab Sample ID: 880-16372-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*06/28/22 16:05*	*06/29/22 00:03*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			06/29/22 09:18	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			06/29/22 11:12	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/28/22 16:43	06/29/22 05:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/28/22 16:43	06/29/22 05:20	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/28/22 16:43	06/29/22 05:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*06/28/22 16:43*	*06/29/22 05:20*	*1*
o-Terphenyl	*104*		*70 - 130*	*06/28/22 16:43*	*06/29/22 05:20*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25.6**		5.00	mg/Kg			06/28/22 23:49	1

Client Sample ID: FS03

Date Collected: 06/27/22 14:37
Date Received: 06/28/22 09:54
Sample Depth: 2.5

Lab Sample ID: 880-16372-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/28/22 16:05	06/29/22 00:24	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/28/22 16:05	06/29/22 00:24	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/28/22 16:05	06/29/22 00:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/28/22 16:05	06/29/22 00:24	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/28/22 16:05	06/29/22 00:24	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/28/22 16:05	06/29/22 00:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*06/28/22 16:05*	*06/29/22 00:24*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*06/28/22 16:05*	*06/29/22 00:24*	*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			06/29/22 09:18	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			06/29/22 11:12	1

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Client Sample ID: FS03

Lab Sample ID: 880-16372-3
Matrix: Solid
Date Collected: 06/27/22 14:37
Date Received: 06/28/22 09:54
Sample Depth: 2.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/28/22 16:43	06/29/22 05:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/28/22 16:43	06/29/22 05:41	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/22 16:43	06/29/22 05:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*06/28/22 16:43*	*06/29/22 05:41*	*1*
o-Terphenyl	*110*		*70 - 130*	*06/28/22 16:43*	*06/29/22 05:41*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**69.1**		4.99		mg/Kg			06/28/22 23:58	1

Client Sample ID: FS04

Lab Sample ID: 880-16372-4
Matrix: Solid
Date Collected: 06/27/22 14:41
Date Received: 06/28/22 09:54
Sample Depth: 2.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 00:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 00:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 00:44	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/28/22 16:05	06/29/22 00:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 00:44	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/28/22 16:05	06/29/22 00:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*06/28/22 16:05*	*06/29/22 00:44*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*06/28/22 16:05*	*06/29/22 00:44*	*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			06/29/22 09:18	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			06/29/22 11:12	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/28/22 16:43	06/29/22 06:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/28/22 16:43	06/29/22 06:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/22 16:43	06/29/22 06:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*06/28/22 16:43*	*06/29/22 06:02*	*1*
o-Terphenyl	*116*		*70 - 130*	*06/28/22 16:43*	*06/29/22 06:02*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Client Sample ID: FS04

Lab Sample ID: 880-16372-4
Matrix: Solid
Date Collected: 06/27/22 14:41
Date Received: 06/28/22 09:54
Sample Depth: 2.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.6		5.01		mg/Kg			06/29/22 00:07	1

Client Sample ID: SW01

Lab Sample ID: 880-16372-5
Matrix: Solid
Date Collected: 06/27/22 14:39
Date Received: 06/28/22 09:54
Sample Depth: 2.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 01:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 01:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 01:05	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/28/22 16:05	06/29/22 01:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/29/22 01:05	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/28/22 16:05	06/29/22 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*06/28/22 16:05*	*06/29/22 01:05*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/28/22 16:05*	*06/29/22 01:05*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			06/29/22 09:18	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			06/29/22 11:12	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/28/22 16:43	06/29/22 06:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/28/22 16:43	06/29/22 06:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/22 16:43	06/29/22 06:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*06/28/22 16:43*	*06/29/22 06:22*	*1*
o-Terphenyl	*105*		*70 - 130*	*06/28/22 16:43*	*06/29/22 06:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.0		4.98		mg/Kg			06/29/22 00:16	1

Surrogate Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-16372-1	FS01	106	96
880-16372-1 MS	FS01	106	101
880-16372-1 MSD	FS01	107	100
880-16372-2	FS02	107	93
880-16372-3	FS03	110	92
880-16372-4	FS04	108	86
880-16372-5	SW01	111	97
LCS 880-28492/1-A	Lab Control Sample	106	99
LCSD 880-28492/2-A	Lab Control Sample Dup	107	101
MB 880-28492/5-B	Method Blank	101	92
MB 880-28503/5-A	Method Blank	99	89

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-16321-A-2-C MS	Matrix Spike	128	103
880-16321-A-2-D MSD	Matrix Spike Duplicate	127	102
880-16372-1	FS01	133 S1+	120
880-16372-2	FS02	115	104
880-16372-3	FS03	122	110
880-16372-4	FS04	130	116
880-16372-5	SW01	116	105
LCS 880-28577/2-A	Lab Control Sample	122	105
LCSD 880-28577/3-A	Lab Control Sample Dup	131 S1+	112
MB 880-28577/1-A	Method Blank	128	116

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28492/5-B
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28492

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/28/22 23:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/28/22 23:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/28/22 23:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/28/22 16:05	06/28/22 23:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/28/22 16:05	06/28/22 23:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/28/22 16:05	06/28/22 23:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/28/22 16:05*	*06/28/22 23:21*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*06/28/22 16:05*	*06/28/22 23:21*	*1*

Lab Sample ID: LCS 880-28492/1-A
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28492

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08192		mg/Kg		82	70 - 130		
Toluene			0.100	0.08189		mg/Kg		82	70 - 130		
Ethylbenzene			0.100	0.08532		mg/Kg		85	70 - 130		
m-Xylene & p-Xylene			0.200	0.1766		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.09022		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-28492/2-A
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28492

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08697		mg/Kg		87	70 - 130	6	35
Toluene			0.100	0.08762		mg/Kg		88	70 - 130	7	35
Ethylbenzene			0.100	0.09077		mg/Kg		91	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.1870		mg/Kg		93	70 - 130	6	35
o-Xylene			0.100	0.09565		mg/Kg		96	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-16372-1 MS
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 28492

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09073		mg/Kg		90	70 - 130		
Toluene	<0.00201	U	0.100	0.09069		mg/Kg		90	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

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

Lab Sample ID: 880-16372-1 MS
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 28492

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.09410		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1931		mg/Kg		96	70 - 130
o-Xylene	<0.00201	U	0.100	0.09705		mg/Kg		96	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-16372-1 MSD
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 28492

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.08862		mg/Kg		90	70 - 130	2	35
Toluene	<0.00201	U	0.0990	0.08929		mg/Kg		90	70 - 130	2	35
Ethylbenzene	<0.00201	U	0.0990	0.09315		mg/Kg		94	70 - 130	1	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1920		mg/Kg		97	70 - 130	1	35
o-Xylene	<0.00201	U	0.0990	0.09627		mg/Kg		97	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 880-28503/5-A
Matrix: Solid
Analysis Batch: 28497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28503

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/28/22 08:42	06/28/22 11:21	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/28/22 08:42	06/28/22 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*06/28/22 08:42*	*06/28/22 11:21*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*06/28/22 08:42*	*06/28/22 11:21*	*1*

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

Lab Sample ID: MB 880-28577/1-A
Matrix: Solid
Analysis Batch: 28522

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28577

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/28/22 16:43	06/28/22 22:59	1

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

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

Lab Sample ID: MB 880-28577/1-A
Matrix: Solid
Analysis Batch: 28522

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28577

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/28/22 16:43	06/28/22 22:59	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/22 16:43	06/28/22 22:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*06/28/22 16:43*	*06/28/22 22:59*	*1*
o-Terphenyl	*116*		*70 - 130*	*06/28/22 16:43*	*06/28/22 22:59*	*1*

Lab Sample ID: LCS 880-28577/2-A
Matrix: Solid
Analysis Batch: 28522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28577

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1006		mg/Kg		101	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1017		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*122*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Lab Sample ID: LCSD 880-28577/3-A
Matrix: Solid
Analysis Batch: 28522

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28577

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1091		mg/Kg		109	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	1083		mg/Kg		108	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*131*	*S1+*	*70 - 130*
o-Terphenyl	*112*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28521/1-A
Matrix: Solid
Analysis Batch: 28597

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/28/22 22:53	1

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-28521/2-A
Matrix: Solid
Analysis Batch: 28597

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	257.9		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-28521/3-A
Matrix: Solid
Analysis Batch: 28597

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	264.8		mg/Kg		106	90 - 110	3	20

Lab Sample ID: 880-16372-1 MS
Matrix: Solid
Analysis Batch: 28597

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	23.4		248	271.7		mg/Kg		100	90 - 110		

Lab Sample ID: 880-16372-1 MSD
Matrix: Solid
Analysis Batch: 28597

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	23.4		248	274.4		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

GC VOA

Prep Batch: 28492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16372-1	FS01	Total/NA	Solid	5035	
880-16372-2	FS02	Total/NA	Solid	5035	
880-16372-3	FS03	Total/NA	Solid	5035	
880-16372-4	FS04	Total/NA	Solid	5035	
880-16372-5	SW01	Total/NA	Solid	5035	
MB 880-28492/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-28492/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28492/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16372-1 MS	FS01	Total/NA	Solid	5035	
880-16372-1 MSD	FS01	Total/NA	Solid	5035	

Analysis Batch: 28497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16372-1	FS01	Total/NA	Solid	8021B	28492
880-16372-2	FS02	Total/NA	Solid	8021B	28492
880-16372-3	FS03	Total/NA	Solid	8021B	28492
880-16372-4	FS04	Total/NA	Solid	8021B	28492
880-16372-5	SW01	Total/NA	Solid	8021B	28492
MB 880-28492/5-B	Method Blank	Total/NA	Solid	8021B	28492
MB 880-28503/5-A	Method Blank	Total/NA	Solid	8021B	28503
LCS 880-28492/1-A	Lab Control Sample	Total/NA	Solid	8021B	28492
LCSD 880-28492/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28492
880-16372-1 MS	FS01	Total/NA	Solid	8021B	28492
880-16372-1 MSD	FS01	Total/NA	Solid	8021B	28492

Prep Batch: 28503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-28503/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 28620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16372-1	FS01	Total/NA	Solid	Total BTEX	
880-16372-2	FS02	Total/NA	Solid	Total BTEX	
880-16372-3	FS03	Total/NA	Solid	Total BTEX	
880-16372-4	FS04	Total/NA	Solid	Total BTEX	
880-16372-5	SW01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 28522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16372-1	FS01	Total/NA	Solid	8015B NM	28577
880-16372-2	FS02	Total/NA	Solid	8015B NM	28577
880-16372-3	FS03	Total/NA	Solid	8015B NM	28577
880-16372-4	FS04	Total/NA	Solid	8015B NM	28577
880-16372-5	SW01	Total/NA	Solid	8015B NM	28577
MB 880-28577/1-A	Method Blank	Total/NA	Solid	8015B NM	28577
LCS 880-28577/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28577
LCSD 880-28577/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28577

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

GC Semi VOA

Prep Batch: 28577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16372-1	FS01	Total/NA	Solid	8015NM Prep	
880-16372-2	FS02	Total/NA	Solid	8015NM Prep	
880-16372-3	FS03	Total/NA	Solid	8015NM Prep	
880-16372-4	FS04	Total/NA	Solid	8015NM Prep	
880-16372-5	SW01	Total/NA	Solid	8015NM Prep	
MB 880-28577/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28577/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28577/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 28638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16372-1	FS01	Total/NA	Solid	8015 NM	
880-16372-2	FS02	Total/NA	Solid	8015 NM	
880-16372-3	FS03	Total/NA	Solid	8015 NM	
880-16372-4	FS04	Total/NA	Solid	8015 NM	
880-16372-5	SW01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16372-1	FS01	Soluble	Solid	DI Leach	
880-16372-2	FS02	Soluble	Solid	DI Leach	
880-16372-3	FS03	Soluble	Solid	DI Leach	
880-16372-4	FS04	Soluble	Solid	DI Leach	
880-16372-5	SW01	Soluble	Solid	DI Leach	
MB 880-28521/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28521/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28521/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-16372-1 MS	FS01	Soluble	Solid	DI Leach	
880-16372-1 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 28597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16372-1	FS01	Soluble	Solid	300.0	28521
880-16372-2	FS02	Soluble	Solid	300.0	28521
880-16372-3	FS03	Soluble	Solid	300.0	28521
880-16372-4	FS04	Soluble	Solid	300.0	28521
880-16372-5	SW01	Soluble	Solid	300.0	28521
MB 880-28521/1-A	Method Blank	Soluble	Solid	300.0	28521
LCS 880-28521/2-A	Lab Control Sample	Soluble	Solid	300.0	28521
LCSD 880-28521/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28521
880-16372-1 MS	FS01	Soluble	Solid	300.0	28521
880-16372-1 MSD	FS01	Soluble	Solid	300.0	28521

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Client Sample ID: FS01
Date Collected: 06/27/22 10:50
Date Received: 06/28/22 09:54

Lab Sample ID: 880-16372-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28492	06/28/22 16:05	MR	XEN MID
Total/NA	Analysis	8021B		1	28497	06/28/22 23:43	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28620	06/29/22 09:18	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	28638	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28522	06/29/22 04:59	SM	XEN MID
Soluble	Leach	DI Leach			28521	06/28/22 10:27	SMC	XEN MID
Soluble	Analysis	300.0		1	28597	06/28/22 23:21	SMC	XEN MID

Client Sample ID: FS02
Date Collected: 06/27/22 11:05
Date Received: 06/28/22 09:54

Lab Sample ID: 880-16372-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28492	06/28/22 16:05	MR	XEN MID
Total/NA	Analysis	8021B		1	28497	06/29/22 00:03	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28620	06/29/22 09:18	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	28638	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28522	06/29/22 05:20	SM	XEN MID
Soluble	Leach	DI Leach			28521	06/28/22 10:27	SMC	XEN MID
Soluble	Analysis	300.0		1	28597	06/28/22 23:49	SMC	XEN MID

Client Sample ID: FS03
Date Collected: 06/27/22 14:37
Date Received: 06/28/22 09:54

Lab Sample ID: 880-16372-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28492	06/28/22 16:05	MR	XEN MID
Total/NA	Analysis	8021B		1	28497	06/29/22 00:24	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28620	06/29/22 09:18	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	28638	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28522	06/29/22 05:41	SM	XEN MID
Soluble	Leach	DI Leach			28521	06/28/22 10:27	SMC	XEN MID
Soluble	Analysis	300.0		1	28597	06/28/22 23:58	SMC	XEN MID

Client Sample ID: FS04
Date Collected: 06/27/22 14:41
Date Received: 06/28/22 09:54

Lab Sample ID: 880-16372-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28492	06/28/22 16:05	MR	XEN MID
Total/NA	Analysis	8021B		1	28497	06/29/22 00:44	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28620	06/29/22 09:18	AJ	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Client Sample ID: FS04

Lab Sample ID: 880-16372-4
Matrix: Solid
Date Collected: 06/27/22 14:41
Date Received: 06/28/22 09:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	28638	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28522	06/29/22 06:02	SM	XEN MID
Soluble	Leach	DI Leach			28521	06/28/22 10:27	SMC	XEN MID
Soluble	Analysis	300.0		1	28597	06/29/22 00:07	SMC	XEN MID

Client Sample ID: SW01

Lab Sample ID: 880-16372-5
Matrix: Solid
Date Collected: 06/27/22 14:39
Date Received: 06/28/22 09:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28492	06/28/22 16:05	MR	XEN MID
Total/NA	Analysis	8021B		1	28497	06/29/22 01:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28620	06/29/22 09:18	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	28638	06/29/22 11:12	SM	XEN MID
Total/NA	Prep	8015NM Prep			28577	06/28/22 16:43	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28522	06/29/22 06:22	SM	XEN MID
Soluble	Leach	DI Leach			28521	06/28/22 10:27	SMC	XEN MID
Soluble	Analysis	300.0		1	28597	06/29/22 00:16	SMC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Job ID: 880-16372-1
Project/Site: MCA 308

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16372-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-16372-1	FS01	Solid	06/27/22 10:50	06/28/22 09:54	2.5
880-16372-2	FS02	Solid	06/27/22 11:05	06/28/22 09:54	2.5
880-16372-3	FS03	Solid	06/27/22 14:37	06/28/22 09:54	2.5
880-16372-4	FS04	Solid	06/27/22 14:41	06/28/22 09:54	2.5
880-16372-5	SW01	Solid	06/27/22 14:39	06/28/22 09:54	2.5

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Chain of Custody

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

Work Order No: 16372

www.xenco.com Page 1 of 1

Project Manager:	KALEI JENNINGS	Bill to. (if different)	KALEI JENNINGS
Company Name.	ENSOLUM	Company Name:	ENSOLUM
Address:		Address:	
City, State ZIP:	MIDLAND, TX 79701	City, State ZIP:	
Phone:	817-683-2503	Email:	KJENNINGS@ENSOLUM.COM

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting Level II ☒ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☒ ADaPT ☐ Other.

Project Name.	MCA 308	Turn Around	☐ Routine ☒ Rush
Project Number:		Due Date:	24 HR
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	HADLIE GREEN		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR8
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5
Total Containers:		Corrected Temperature:	3

Preservative Codes

None: NO DI Water: H_2O
Cool. Cool MeOH Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX 8021	TPH 8015	CHLORIDES 300
FS01	SL	6-27-22	10:50	2.5		1		X	X	X
FS02			11:05	2.5						
FS03			1437	2.5						
FS04			1441	2.5						
SW01			1439	0-2.5						

Sample Comments

Incident ID
Cost Center:
AFE:

880-16372 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245 1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by (Signature)	Date/Time
1 Kalei Jennings		6.28.22 9:54	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum Job Number: 880-16372-1

Login Number: 16372 **List Source: Eurofins Midland**
List Number: 1
Creator: Rodriguez, Leticia

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

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ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-16417-1
Client Project/Site: MCA 308
Revision: 1

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
7/11/2022 9:33:08 AM

Jessica Kramer, Project Manager
(432)704-5440
Jessica.Kramer@et.eurofinsus.com

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

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

Client: Ensolum
Project/Site: MCA 308

Laboratory Job ID: 880-16417-1

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Job ID: 880-16417-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-16417-1

REVISION

The report being provided is a revision of the original report sent on 6/30/2022. The report (revision 1) is being revised due to Per client email, requested sample depths to be requested.

Report revision history

Receipt
The samples were received on 6/29/2022 9:18 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 0.4°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-28360 and analytical batch 880-28609 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-28683 and analytical batch 880-28603 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SW04 (880-16417-9). 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.

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: FS05

Date Collected: 06/28/22 09:50
Date Received: 06/29/22 09:18
Sample Depth: 2.5'

Lab Sample ID: 880-16417-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U F1	0.00200		mg/Kg		06/29/22 11:00	06/29/22 21:52	1
Toluene	<0.00200	U F1	0.00200		mg/Kg		06/29/22 11:00	06/29/22 21:52	1
Ethylbenzene	<0.00200	U F1	0.00200		mg/Kg		06/29/22 11:00	06/29/22 21:52	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/29/22 11:00	06/29/22 21:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 21:52	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/29/22 11:00	06/29/22 21:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*06/29/22 11:00*	*06/29/22 21:52*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*06/29/22 11:00*	*06/29/22 21:52*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			06/30/22 10:34	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			06/30/22 09:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	49.9		mg/Kg		06/29/22 15:50	06/29/22 20:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U F1	49.9		mg/Kg		06/29/22 15:50	06/29/22 20:51	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/29/22 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*06/29/22 15:50*	*06/29/22 20:51*	*1*
o-Terphenyl	*125*		*70 - 130*	*06/29/22 15:50*	*06/29/22 20:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**15.6**		5.01		mg/Kg			06/29/22 23:37	1

Client Sample ID: FS06

Date Collected: 06/28/22 10:41
Date Received: 06/29/22 09:18
Sample Depth: 2.5'

Lab Sample ID: 880-16417-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/29/22 11:00	06/29/22 22:13	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/29/22 11:00	06/29/22 22:13	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/29/22 11:00	06/29/22 22:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/29/22 11:00	06/29/22 22:13	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/29/22 11:00	06/29/22 22:13	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/29/22 11:00	06/29/22 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*06/29/22 11:00*	*06/29/22 22:13*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: FS06
Date Collected: 06/28/22 10:41
Date Received: 06/29/22 09:18
Sample Depth: 2.5'

Lab Sample ID: 880-16417-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*06/29/22 11:00*	*06/29/22 22:13*	*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			06/30/22 10:34	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			06/30/22 09:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 21:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 21:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 21:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*06/29/22 15:50*	*06/29/22 21:56*	*1*
o-Terphenyl	*119*		*70 - 130*	*06/29/22 15:50*	*06/29/22 21:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.55**		5.05		mg/Kg			06/29/22 23:45	1

Client Sample ID: FS07
Date Collected: 06/28/22 10:37
Date Received: 06/29/22 09:18
Sample Depth: 2.5'

Lab Sample ID: 880-16417-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 22:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 22:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 22:33	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/29/22 11:00	06/29/22 22:33	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 22:33	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/29/22 11:00	06/29/22 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*06/29/22 11:00*	*06/29/22 22:33*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*06/29/22 11:00*	*06/29/22 22:33*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			06/30/22 10:34	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			06/30/22 09:20	1

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Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: FS07
Date Collected: 06/28/22 10:37
Date Received: 06/29/22 09:18
Sample Depth: 2.5'

Lab Sample ID: 880-16417-3
Matrix: Solid

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		06/29/22 15:50	06/29/22 22:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/29/22 22:17	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/29/22 22:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*06/29/22 15:50*	*06/29/22 22:17*	*1*
o-Terphenyl	*118*		*70 - 130*	*06/29/22 15:50*	*06/29/22 22:17*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.85**		4.98		mg/Kg			06/29/22 23:53	1

Client Sample ID: FS08
Date Collected: 06/28/22 14:11
Date Received: 06/29/22 09:18
Sample Depth: 2.5'

Lab Sample ID: 880-16417-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 22:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 22:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 22:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/29/22 11:00	06/29/22 22:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 22:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/29/22 11:00	06/29/22 22:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*06/29/22 11:00*	*06/29/22 22:54*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*06/29/22 11:00*	*06/29/22 22:54*	*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			06/30/22 10:34	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			06/30/22 09:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		06/29/22 15:50	06/29/22 22:39	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/29/22 15:50	06/29/22 22:39	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/29/22 15:50	06/29/22 22:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*06/29/22 15:50*	*06/29/22 22:39*	*1*
o-Terphenyl	*117*		*70 - 130*	*06/29/22 15:50*	*06/29/22 22:39*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: FS08

Lab Sample ID: 880-16417-4
Matrix: Solid
Date Collected: 06/28/22 14:11
Date Received: 06/29/22 09:18
Sample Depth: 2.5'

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99.8		4.95		mg/Kg			06/30/22 00:00	1

Client Sample ID: FS09

Lab Sample ID: 880-16417-5
Matrix: Solid
Date Collected: 06/28/22 14:13
Date Received: 06/29/22 09:18
Sample Depth: 2.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 23:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 23:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 23:14	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/29/22 11:00	06/29/22 23:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 23:14	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/29/22 11:00	06/29/22 23:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*06/29/22 11:00*	*06/29/22 23:14*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*06/29/22 11:00*	*06/29/22 23:14*	*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			06/30/22 10:34	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			06/30/22 09:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 23:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 23:00	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 23:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*06/29/22 15:50*	*06/29/22 23:00*	*1*
o-Terphenyl	*115*		*70 - 130*	*06/29/22 15:50*	*06/29/22 23:00*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.2		5.00		mg/Kg			06/30/22 00:08	1

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: FS11
Date Collected: 06/28/22 14:15
Date Received: 06/29/22 09:18
Sample Depth: 4'

Lab Sample ID: 880-16417-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/29/22 11:00	06/29/22 23:35	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/29/22 11:00	06/29/22 23:35	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/29/22 11:00	06/29/22 23:35	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/29/22 11:00	06/29/22 23:35	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/29/22 11:00	06/29/22 23:35	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/29/22 11:00	06/29/22 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*06/29/22 11:00*	*06/29/22 23:35*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/29/22 11:00*	*06/29/22 23:35*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			06/30/22 10:34	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			06/30/22 09:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/29/22 23:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/29/22 23:22	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/29/22 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*06/29/22 15:50*	*06/29/22 23:22*	*1*
o-Terphenyl	*115*		*70 - 130*	*06/29/22 15:50*	*06/29/22 23:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1090**		4.97		mg/Kg			06/30/22 00:16	1

Client Sample ID: SW02
Date Collected: 06/28/22 09:53
Date Received: 06/29/22 09:18
Sample Depth: 0-2.5'

Lab Sample ID: 880-16417-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		06/29/22 11:00	06/29/22 23:55	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/29/22 11:00	06/29/22 23:55	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		06/29/22 11:00	06/29/22 23:55	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		06/29/22 11:00	06/29/22 23:55	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/29/22 11:00	06/29/22 23:55	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		06/29/22 11:00	06/29/22 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*06/29/22 11:00*	*06/29/22 23:55*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: SW02

Date Collected: 06/28/22 09:53
Date Received: 06/29/22 09:18
Sample Depth: 0-2.5'

Lab Sample ID: 880-16417-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*06/29/22 11:00*	*06/29/22 23:55*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			06/30/22 10:34	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			06/30/22 09:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/29/22 15:50	06/29/22 23:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/29/22 15:50	06/29/22 23:43	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/29/22 15:50	06/29/22 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*06/29/22 15:50*	*06/29/22 23:43*	*1*
o-Terphenyl	*112*		*70 - 130*	*06/29/22 15:50*	*06/29/22 23:43*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26.6**		4.98	mg/Kg			06/29/22 21:27	1

Client Sample ID: SW03

Date Collected: 06/28/22 09:56
Date Received: 06/29/22 09:18
Sample Depth: 0-2.5'

Lab Sample ID: 880-16417-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/29/22 11:00	06/30/22 00:16	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/29/22 11:00	06/30/22 00:16	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/29/22 11:00	06/30/22 00:16	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		06/29/22 11:00	06/30/22 00:16	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/29/22 11:00	06/30/22 00:16	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		06/29/22 11:00	06/30/22 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*06/29/22 11:00*	*06/30/22 00:16*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*06/29/22 11:00*	*06/30/22 00:16*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			06/30/22 10:34	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			06/30/22 09:20	1

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Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: SW03
Date Collected: 06/28/22 09:56
Date Received: 06/29/22 09:18
Sample Depth: 0-2.5'

Lab Sample ID: 880-16417-8
Matrix: Solid

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		06/29/22 15:50	06/30/22 00:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/30/22 00:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/30/22 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*06/29/22 15:50*	*06/30/22 00:04*	*1*
o-Terphenyl	*124*		*70 - 130*	*06/29/22 15:50*	*06/30/22 00:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13.5**		5.00		mg/Kg			06/29/22 21:54	1

Client Sample ID: SW04
Date Collected: 06/28/22 09:58
Date Received: 06/29/22 09:18
Sample Depth: 0-2.5'

Lab Sample ID: 880-16417-9
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/30/22 00:36	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/30/22 00:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/30/22 00:36	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/29/22 11:00	06/30/22 00:36	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/30/22 00:36	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/29/22 11:00	06/30/22 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*06/29/22 11:00*	*06/30/22 00:36*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*06/29/22 11:00*	*06/30/22 00:36*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			06/30/22 10:34	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			06/30/22 09:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/30/22 00:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/30/22 00:25	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/29/22 15:50	06/30/22 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*06/29/22 15:50*	*06/30/22 00:25*	*1*
o-Terphenyl	*139*	*S1+*	*70 - 130*	*06/29/22 15:50*	*06/30/22 00:25*	*1*

Client Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: SW04
Date Collected: 06/28/22 09:58
Date Received: 06/29/22 09:18
Sample Depth: 0-2.5'

Lab Sample ID: 880-16417-9
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.4		4.99		mg/Kg			06/29/22 22:04	1

Client Sample ID: SW08
Date Collected: 06/28/22 10:40
Date Received: 06/29/22 09:18
Sample Depth: 0-2.5'

Lab Sample ID: 880-16417-10
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/29/22 11:00	06/30/22 00:57	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/29/22 11:00	06/30/22 00:57	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/29/22 11:00	06/30/22 00:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/29/22 11:00	06/30/22 00:57	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/29/22 11:00	06/30/22 00:57	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/29/22 11:00	06/30/22 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*06/29/22 11:00*	*06/30/22 00:57*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*06/29/22 11:00*	*06/30/22 00:57*	*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			06/30/22 10:34	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			06/30/22 09:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/29/22 11:00	06/29/22 15:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/29/22 11:00	06/29/22 15:49	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/29/22 11:00	06/29/22 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane				*06/29/22 11:00*	*06/29/22 15:49*	*1*
o-Terphenyl				*06/29/22 11:00*	*06/29/22 15:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.0		4.97		mg/Kg			06/29/22 22:13	1

Surrogate Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-16417-1	FS05	106	100
880-16417-1 MS	FS05	105	93
880-16417-1 MSD	FS05	127	115
880-16417-2	FS06	101	91
880-16417-3	FS07	109	102
880-16417-4	FS08	111	101
880-16417-5	FS09	96	102
880-16417-6	FS11	122	97
880-16417-7	SW02	113	96
880-16417-8	SW03	116	89
880-16417-9	SW04	111	94
880-16417-10	SW08	94	88
LCS 880-28360/1-A	Lab Control Sample	104	100
LCSD 880-28360/2-A	Lab Control Sample Dup	105	101
MB 880-28360/5-A	Method Blank	105	92
MB 880-28613/5-A	Method Blank	104	90

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-16414-A-21-E MS	Matrix Spike	107	97
880-16414-A-21-F MSD	Matrix Spike Duplicate	92	83
880-16417-1	FS05	113	125
880-16417-1 MS	FS05	98	95
880-16417-1 MSD	FS05	111	112
880-16417-2	FS06	109	119
880-16417-3	FS07	110	118
880-16417-4	FS08	108	117
880-16417-5	FS09	105	115
880-16417-6	FS11	106	115
880-16417-7	SW02	103	112
880-16417-8	SW03	111	124
880-16417-9	SW04	124	139 S1+
LCS 880-28627/2-A	Lab Control Sample	99	104
LCS 880-28683/2-A	Lab Control Sample	110	109
LCSD 880-28627/3-A	Lab Control Sample Dup	90	93
LCSD 880-28683/3-A	Lab Control Sample Dup	110	110
MB 880-28627/1-A	Method Blank	99	111
MB 880-28683/1-A	Method Blank	105	119

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

Surrogate Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

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		
880-16417-10	SW08		

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28360/5-A
Matrix: Solid
Analysis Batch: 28609

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28360

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 21:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 21:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 21:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/29/22 11:00	06/29/22 21:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/22 11:00	06/29/22 21:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/29/22 11:00	06/29/22 21:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*06/29/22 11:00*	*06/29/22 21:31*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*06/29/22 11:00*	*06/29/22 21:31*	*1*

Lab Sample ID: LCS 880-28360/1-A
Matrix: Solid
Analysis Batch: 28609

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28360

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08385		mg/Kg		84	70 - 130		
Toluene			0.100	0.08300		mg/Kg		83	70 - 130		
Ethylbenzene			0.100	0.08769		mg/Kg		88	70 - 130		
m-Xylene & p-Xylene			0.200	0.1753		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.09291		mg/Kg		93	70 - 130		

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

Lab Sample ID: LCSD 880-28360/2-A
Matrix: Solid
Analysis Batch: 28609

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28360

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09439		mg/Kg		94	70 - 130	12	35
Toluene			0.100	0.09230		mg/Kg		92	70 - 130	11	35
Ethylbenzene			0.100	0.09619		mg/Kg		96	70 - 130	9	35
m-Xylene & p-Xylene			0.200	0.1939		mg/Kg		97	70 - 130	10	35
o-Xylene			0.100	0.1001		mg/Kg		100	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-16417-1 MS
Matrix: Solid
Analysis Batch: 28609

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 28360

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1	0.100	0.05471	F1	mg/Kg		55	70 - 130		
Toluene	<0.00200	U F1	0.100	0.06234	F1	mg/Kg		62	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

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

Lab Sample ID: 880-16417-1 MS
Matrix: Solid
Analysis Batch: 28609

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 28360

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F1	0.100	0.06951	F1	mg/Kg		69	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1482		mg/Kg		74	70 - 130
o-Xylene	<0.00200	U	0.100	0.07620		mg/Kg		76	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-16417-1 MSD
Matrix: Solid
Analysis Batch: 28609

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 28360

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0998	0.06134	F1	mg/Kg		61	70 - 130	11	35
Toluene	<0.00200	U F1	0.0998	0.06573	F1	mg/Kg		66	70 - 130	5	35
Ethylbenzene	<0.00200	U F1	0.0998	0.07101		mg/Kg		71	70 - 130	2	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1560		mg/Kg		78	70 - 130	5	35
o-Xylene	<0.00200	U	0.0998	0.08746		mg/Kg		88	70 - 130	14	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

Lab Sample ID: MB 880-28613/5-A
Matrix: Solid
Analysis Batch: 28609

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28613

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/29/22 08:53	06/29/22 10:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/29/22 08:53	06/29/22 10:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/29/22 08:53	06/29/22 10:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/29/22 08:53	06/29/22 10:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/29/22 08:53	06/29/22 10:54	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/29/22 08:53	06/29/22 10:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*06/29/22 08:53*	*06/29/22 10:54*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*06/29/22 08:53*	*06/29/22 10:54*	*1*

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

Lab Sample ID: MB 880-28627/1-A
Matrix: Solid
Analysis Batch: 28605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28627

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/29/22 09:57	06/29/22 10:05	1

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

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

Lab Sample ID: MB 880-28627/1-A
Matrix: Solid
Analysis Batch: 28605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28627

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/29/22 09:57	06/29/22 10:05	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/29/22 09:57	06/29/22 10:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*06/29/22 09:57*	*06/29/22 10:05*	*1*
o-Terphenyl	*111*		*70 - 130*	*06/29/22 09:57*	*06/29/22 10:05*	*1*

Lab Sample ID: LCS 880-28627/2-A
Matrix: Solid
Analysis Batch: 28605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28627

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	874.4		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1061		mg/Kg		106	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: LCSD 880-28627/3-A
Matrix: Solid
Analysis Batch: 28605

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28627

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	791.5		mg/Kg		79	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	917.5		mg/Kg		92	70 - 130	15	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: MB 880-28683/1-A
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28683

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 19:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 19:46	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/29/22 15:50	06/29/22 19:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*06/29/22 15:50*	*06/29/22 19:46*	*1*

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

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

Lab Sample ID: MB 880-28683/1-A
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28683

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	119		70 - 130	06/29/22 15:50	06/29/22 19:46	1

Lab Sample ID: LCS 880-28683/2-A
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1244		mg/Kg		124	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1171		mg/Kg		117	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: LCSD 880-28683/3-A
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28683

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1207		mg/Kg		121	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	1222		mg/Kg		122	70 - 130	4	20

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

Lab Sample ID: 880-16417-1 MS
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 28683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	996	1258		mg/Kg		126	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	996	1163		mg/Kg		117	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	95		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

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

Lab Sample ID: 880-16417-1 MSD
Matrix: Solid
Analysis Batch: 28603

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 28683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	996	1962	F1 F2	mg/Kg		197	70 - 130	44	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	996	1335	F1	mg/Kg		134	70 - 130	14	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28628/1-A
Matrix: Solid
Analysis Batch: 28663

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/29/22 20:21	1

Lab Sample ID: LCS 880-28628/2-A
Matrix: Solid
Analysis Batch: 28663

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	255.2		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-28628/3-A
Matrix: Solid
Analysis Batch: 28663

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	253.3		mg/Kg		101	90 - 110	1	20

Lab Sample ID: MB 880-28629/1-A
Matrix: Solid
Analysis Batch: 28664

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/29/22 20:59	1

Lab Sample ID: LCS 880-28629/2-A
Matrix: Solid
Analysis Batch: 28664

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.3		mg/Kg		106	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-28629/3-A
Matrix: Solid
Analysis Batch: 28664

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	262.2		mg/Kg		105	90 - 110	1	20

Lab Sample ID: 880-16417-7 MS
Matrix: Solid
Analysis Batch: 28664

Client Sample ID: SW02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	26.6		249	278.8		mg/Kg		101	90 - 110

Lab Sample ID: 880-16417-7 MSD
Matrix: Solid
Analysis Batch: 28664

Client Sample ID: SW02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	26.6		249	282.2		mg/Kg		103	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

GC VOA

Prep Batch: 28360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-1	FS05	Total/NA	Solid	5035	
880-16417-2	FS06	Total/NA	Solid	5035	
880-16417-3	FS07	Total/NA	Solid	5035	
880-16417-4	FS08	Total/NA	Solid	5035	
880-16417-5	FS09	Total/NA	Solid	5035	
880-16417-6	FS11	Total/NA	Solid	5035	
880-16417-7	SW02	Total/NA	Solid	5035	
880-16417-8	SW03	Total/NA	Solid	5035	
880-16417-9	SW04	Total/NA	Solid	5035	
880-16417-10	SW08	Total/NA	Solid	5035	
MB 880-28360/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28360/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28360/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-16417-1 MS	FS05	Total/NA	Solid	5035	
880-16417-1 MSD	FS05	Total/NA	Solid	5035	

Analysis Batch: 28609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-1	FS05	Total/NA	Solid	8021B	28360
880-16417-2	FS06	Total/NA	Solid	8021B	28360
880-16417-3	FS07	Total/NA	Solid	8021B	28360
880-16417-4	FS08	Total/NA	Solid	8021B	28360
880-16417-5	FS09	Total/NA	Solid	8021B	28360
880-16417-6	FS11	Total/NA	Solid	8021B	28360
880-16417-7	SW02	Total/NA	Solid	8021B	28360
880-16417-8	SW03	Total/NA	Solid	8021B	28360
880-16417-9	SW04	Total/NA	Solid	8021B	28360
880-16417-10	SW08	Total/NA	Solid	8021B	28360
MB 880-28360/5-A	Method Blank	Total/NA	Solid	8021B	28360
MB 880-28613/5-A	Method Blank	Total/NA	Solid	8021B	28613
LCS 880-28360/1-A	Lab Control Sample	Total/NA	Solid	8021B	28360
LCSD 880-28360/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28360
880-16417-1 MS	FS05	Total/NA	Solid	8021B	28360
880-16417-1 MSD	FS05	Total/NA	Solid	8021B	28360

Prep Batch: 28613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-28613/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 28743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-1	FS05	Total/NA	Solid	Total BTEX	
880-16417-2	FS06	Total/NA	Solid	Total BTEX	
880-16417-3	FS07	Total/NA	Solid	Total BTEX	
880-16417-4	FS08	Total/NA	Solid	Total BTEX	
880-16417-5	FS09	Total/NA	Solid	Total BTEX	
880-16417-6	FS11	Total/NA	Solid	Total BTEX	
880-16417-7	SW02	Total/NA	Solid	Total BTEX	
880-16417-8	SW03	Total/NA	Solid	Total BTEX	
880-16417-9	SW04	Total/NA	Solid	Total BTEX	
880-16417-10	SW08	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

GC Semi VOA

Analysis Batch: 28603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-1	FS05	Total/NA	Solid	8015B NM	28683
880-16417-2	FS06	Total/NA	Solid	8015B NM	28683
880-16417-3	FS07	Total/NA	Solid	8015B NM	28683
880-16417-4	FS08	Total/NA	Solid	8015B NM	28683
880-16417-5	FS09	Total/NA	Solid	8015B NM	28683
880-16417-6	FS11	Total/NA	Solid	8015B NM	28683
880-16417-7	SW02	Total/NA	Solid	8015B NM	28683
880-16417-8	SW03	Total/NA	Solid	8015B NM	28683
880-16417-9	SW04	Total/NA	Solid	8015B NM	28683
MB 880-28683/1-A	Method Blank	Total/NA	Solid	8015B NM	28683
LCS 880-28683/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28683
LCSD 880-28683/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28683
880-16417-1 MS	FS05	Total/NA	Solid	8015B NM	28683
880-16417-1 MSD	FS05	Total/NA	Solid	8015B NM	28683

Analysis Batch: 28605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-10	SW08	Total/NA	Solid	8015B NM	28627
MB 880-28627/1-A	Method Blank	Total/NA	Solid	8015B NM	28627
LCS 880-28627/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28627
LCSD 880-28627/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28627

Prep Batch: 28627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-10	SW08	Total/NA	Solid	8015NM Prep	
MB 880-28627/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28627/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28627/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 28683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-1	FS05	Total/NA	Solid	8015NM Prep	
880-16417-2	FS06	Total/NA	Solid	8015NM Prep	
880-16417-3	FS07	Total/NA	Solid	8015NM Prep	
880-16417-4	FS08	Total/NA	Solid	8015NM Prep	
880-16417-5	FS09	Total/NA	Solid	8015NM Prep	
880-16417-6	FS11	Total/NA	Solid	8015NM Prep	
880-16417-7	SW02	Total/NA	Solid	8015NM Prep	
880-16417-8	SW03	Total/NA	Solid	8015NM Prep	
880-16417-9	SW04	Total/NA	Solid	8015NM Prep	
MB 880-28683/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28683/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28683/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-16417-1 MS	FS05	Total/NA	Solid	8015NM Prep	
880-16417-1 MSD	FS05	Total/NA	Solid	8015NM Prep	

Analysis Batch: 28728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-1	FS05	Total/NA	Solid	8015 NM	
880-16417-2	FS06	Total/NA	Solid	8015 NM	
880-16417-3	FS07	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

GC Semi VOA (Continued)

Analysis Batch: 28728 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-4	FS08	Total/NA	Solid	8015 NM	
880-16417-5	FS09	Total/NA	Solid	8015 NM	
880-16417-6	FS11	Total/NA	Solid	8015 NM	
880-16417-7	SW02	Total/NA	Solid	8015 NM	
880-16417-8	SW03	Total/NA	Solid	8015 NM	
880-16417-9	SW04	Total/NA	Solid	8015 NM	
880-16417-10	SW08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-1	FS05	Soluble	Solid	DI Leach	
880-16417-2	FS06	Soluble	Solid	DI Leach	
880-16417-3	FS07	Soluble	Solid	DI Leach	
880-16417-4	FS08	Soluble	Solid	DI Leach	
880-16417-5	FS09	Soluble	Solid	DI Leach	
880-16417-6	FS11	Soluble	Solid	DI Leach	
MB 880-28628/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28628/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28628/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 28629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-7	SW02	Soluble	Solid	DI Leach	
880-16417-8	SW03	Soluble	Solid	DI Leach	
880-16417-9	SW04	Soluble	Solid	DI Leach	
880-16417-10	SW08	Soluble	Solid	DI Leach	
MB 880-28629/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28629/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28629/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-16417-7 MS	SW02	Soluble	Solid	DI Leach	
880-16417-7 MSD	SW02	Soluble	Solid	DI Leach	

Analysis Batch: 28663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-1	FS05	Soluble	Solid	300.0	28628
880-16417-2	FS06	Soluble	Solid	300.0	28628
880-16417-3	FS07	Soluble	Solid	300.0	28628
880-16417-4	FS08	Soluble	Solid	300.0	28628
880-16417-5	FS09	Soluble	Solid	300.0	28628
880-16417-6	FS11	Soluble	Solid	300.0	28628
MB 880-28628/1-A	Method Blank	Soluble	Solid	300.0	28628
LCS 880-28628/2-A	Lab Control Sample	Soluble	Solid	300.0	28628
LCSD 880-28628/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28628

Analysis Batch: 28664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-7	SW02	Soluble	Solid	300.0	28629
880-16417-8	SW03	Soluble	Solid	300.0	28629
880-16417-9	SW04	Soluble	Solid	300.0	28629

QC Association Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

HPLC/IC (Continued)

Analysis Batch: 28664 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16417-10	SW08	Soluble	Solid	300.0	28629
MB 880-28629/1-A	Method Blank	Soluble	Solid	300.0	28629
LCS 880-28629/2-A	Lab Control Sample	Soluble	Solid	300.0	28629
LCSD 880-28629/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28629
880-16417-7 MS	SW02	Soluble	Solid	300.0	28629
880-16417-7 MSD	SW02	Soluble	Solid	300.0	28629

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: FS05
Date Collected: 06/28/22 09:50
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/29/22 21:52	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28603	06/29/22 20:51	AJ	XEN MID
Soluble	Leach	DI Leach			28628	06/29/22 09:58	CH	XEN MID
Soluble	Analysis	300.0		1	28663	06/29/22 23:37	CH	XEN MID

Client Sample ID: FS06
Date Collected: 06/28/22 10:41
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/29/22 22:13	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28603	06/29/22 21:56	AJ	XEN MID
Soluble	Leach	DI Leach			28628	06/29/22 09:58	CH	XEN MID
Soluble	Analysis	300.0		1	28663	06/29/22 23:45	CH	XEN MID

Client Sample ID: FS07
Date Collected: 06/28/22 10:37
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/29/22 22:33	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28603	06/29/22 22:17	AJ	XEN MID
Soluble	Leach	DI Leach			28628	06/29/22 09:58	CH	XEN MID
Soluble	Analysis	300.0		1	28663	06/29/22 23:53	CH	XEN MID

Client Sample ID: FS08
Date Collected: 06/28/22 14:11
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/29/22 22:54	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: FS08
Date Collected: 06/28/22 14:11
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28603	06/29/22 22:39	AJ	XEN MID
Soluble	Leach	DI Leach			28628	06/29/22 09:58	CH	XEN MID
Soluble	Analysis	300.0		1	28663	06/30/22 00:00	CH	XEN MID

Client Sample ID: FS09
Date Collected: 06/28/22 14:13
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/29/22 23:14	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28603	06/29/22 23:00	AJ	XEN MID
Soluble	Leach	DI Leach			28628	06/29/22 09:58	CH	XEN MID
Soluble	Analysis	300.0		1	28663	06/30/22 00:08	CH	XEN MID

Client Sample ID: FS11
Date Collected: 06/28/22 14:15
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/29/22 23:35	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28603	06/29/22 23:22	AJ	XEN MID
Soluble	Leach	DI Leach			28628	06/29/22 09:58	CH	XEN MID
Soluble	Analysis	300.0		1	28663	06/30/22 00:16	CH	XEN MID

Client Sample ID: SW02
Date Collected: 06/28/22 09:53
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/29/22 23:55	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28603	06/29/22 23:43	AJ	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Client Sample ID: SW02
Date Collected: 06/28/22 09:53
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			28629	06/29/22 10:03	CH	XEN MID
Soluble	Analysis	300.0		1	28664	06/29/22 21:27	CH	XEN MID

Client Sample ID: SW03
Date Collected: 06/28/22 09:56
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/30/22 00:16	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28603	06/30/22 00:04	AJ	XEN MID
Soluble	Leach	DI Leach			28629	06/29/22 10:03	CH	XEN MID
Soluble	Analysis	300.0		1	28664	06/29/22 21:54	CH	XEN MID

Client Sample ID: SW04
Date Collected: 06/28/22 09:58
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/30/22 00:36	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28683	06/29/22 15:50	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28603	06/30/22 00:25	AJ	XEN MID
Soluble	Leach	DI Leach			28629	06/29/22 10:03	CH	XEN MID
Soluble	Analysis	300.0		1	28664	06/29/22 22:04	CH	XEN MID

Client Sample ID: SW08
Date Collected: 06/28/22 10:40
Date Received: 06/29/22 09:18

Lab Sample ID: 880-16417-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28360	06/29/22 11:00	MR	XEN MID
Total/NA	Analysis	8021B		1	28609	06/30/22 00:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28743	06/30/22 10:34	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28728	06/30/22 09:20	AJ	XEN MID
Total/NA	Prep	8015NM Prep			28627	06/29/22 11:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28605	06/29/22 15:49	AJ	XEN MID
Soluble	Leach	DI Leach			28629	06/29/22 10:03	CH	XEN MID
Soluble	Analysis	300.0		1	28664	06/29/22 22:13	CH	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-22

Method Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: MCA 308

Job ID: 880-16417-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-16417-1	FS05	Solid	06/28/22 09:50	06/29/22 09:18	2.5'
880-16417-2	FS06	Solid	06/28/22 10:41	06/29/22 09:18	2.5'
880-16417-3	FS07	Solid	06/28/22 10:37	06/29/22 09:18	2.5'
880-16417-4	FS08	Solid	06/28/22 14:11	06/29/22 09:18	2.5'
880-16417-5	FS09	Solid	06/28/22 14:13	06/29/22 09:18	2.5'
880-16417-6	FS11	Solid	06/28/22 14:15	06/29/22 09:18	4'
880-16417-7	SW02	Solid	06/28/22 09:53	06/29/22 09:18	0-2.5'
880-16417-8	SW03	Solid	06/28/22 09:56	06/29/22 09:18	0-2.5'
880-16417-9	SW04	Solid	06/28/22 09:58	06/29/22 09:18	0-2.5'
880-16417-10	SW08	Solid	06/28/22 10:40	06/29/22 09:18	0-2.5'

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: 16417

www.xenco.com Page 1 of

Project Manager	KALEI JENNINGS	Bill to (if different)	KALEI JENNINGS
Company Name	ENSOLUM	Company Name.	ENSOLUM
Address.		Address.	
City, State ZIP	MIDLAND, TX 79701	City, State ZIP	
Phone.	817-693-7503	Email.	KJENNINGS@ENSOLUM.COM

Work Order Comments

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

Project Name	MCA 308
Project Number:	
Project Location	
Sampler's Name	HADLIE GREEN
PO #:	[redacted]

Turn Around
☐ Routine ☒ Rush
Due Date: 24 HR
TAT starts the day received by the lab, if received by 4 30pm

SAMPLE RECEIPT			
Temp Blank.	Yes No	Wet Ice	Yes No
Samples Received Intact:	Yes No	Thermometer ID	IR8
Cooler Custody Seals:	Yes No N/A	Correction Factor:	+.2
Sample Custody Seals	Yes No N/A	Temperature Reading:	.6
Total Containers.		Corrected Temperature.	.4

Preservative Codes

None NO; DI Water H_2O; Cool Cool; MeOH Me; HCL HC; HNO_3 HN; H_2SO_4 H_2; NaOH Na; H_3PO_4 HP; $NaHSO_4$ NABIS; $Na_2S_2O_3$ $NaSO_3$; Zn Acetate+NaOH Zn; NaOH+Ascorbic Acid SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX 8021	TPH 8015	CHLORIDE 300
FS05	SL	6-28-22	0950	2.5'	comp	1		X	X	X
FS06			1041					X	X	X
FS07			1037					X	X	X
FS08			1411					X	X	X
FS09			1413					X	X	X
FS11			1415	↓				X	X	X
SW02			0953	0-2.5'				X	X	X
SW03			0956					X	X	X
SW04			0958					X	X	X
SW08	↓	↓	1040	↓	↓	↓		X	X	X

880-16417 Chain of Custody

Sample Comments

Incident ID
Cost Center:
AFE

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245 1 / 7470 / 7471

Relinquished by (Signature)	Received by. (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1 Kalei Jennings		6.29.22	2		
3		9 10	4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum Job Number: 880-16417-1

Login Number: 16417 **List Source: Eurofins Midland**
List Number: 1
Creator: Rodriguez, Leticia

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

ENSOLUM

APPENDIX E

Final C-141

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	NAPP2202535435
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2202535435
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

- ☐ The source of the release has been stopped.
- ☐ The impacted area has been secured to protect human health and the environment.
- ☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Ramona Marcus Date: 2/3/2022

L48 Spill Volume Estimate Form

NAPP2202535435

ity Name & Number:	MCA 308
Asset Area:	Maljamar
Release Discovery Date & Time:	01/02/2022 11:00am
Release Type:	Oil Mixture
Provide any known details about the event:	Flowline Leak due to freezing temps.

Spill Calculation - Subsurface Spill - Rectangle

Was the release on pad or off-pad?	See reference table below
Has it rained at least a half inch in the last 24 hours?	See reference table below

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	120.0	3.0	5.00	11.67%	26.700	3.116	5.00%	0.156	2.960
Rectangle B	55.0	8.0	5.00	11.67%	32.633	3.808	5.00%	0.190	3.618
Rectangle C					0.000	0.000		0.000	0.000
Rectangle D					0.000	0.000		0.000	0.000
Rectangle E					0.000	0.000		0.000	0.000
Rectangle F					0.000	0.000		0.000	0.000
Rectangle G					0.000	0.000		0.000	0.000
Rectangle H					0.000	0.000		0.000	0.000
Rectangle I					0.000	0.000		0.000	0.000
Rectangle J					0.000	0.000		0.000	0.000
					Total Volume Release:	6.924		0.346	6.578

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 74970
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	2/3/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2202535435
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2202535435
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: Thomas Haigood Title: HSE Specialist

Signature: [signature] Date: 07/11/2022

email: Thomas.Haigood@mavresources.com Telephone: 432-523-1807

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Jennifer Nobui Date: 07/20/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2202535435
District RP	
Facility ID	
Application ID	

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

Printed Name: Thomas Haigood Title: HSE Specialist

Signature: [signature] Date: 07/11/2022

email: Thomas.Haigood@mavresources.com Telephone: 432-523-1807

OCD Only

Received by: _____ Date: _____

ENSOLUM

APPENDIX F

NMOCD Notifications

From: Nobui, Jennifer, EMNRD
To: Kalei Jennings
Cc: Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Subject: FW: [EXTERNAL] Maverick- Sampling Notification (Week of 06/27/22-07/01/22)
Date: Friday, June 24, 2022 11:30:50 AM
Attachments: image001.png
image002.png
image003.png
image004.png

[**EXTERNAL EMAIL**]

Kalei

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks
Jennifer Nobui

From: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Sent: Thursday, June 23, 2022 3:01 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Subject: Fw: [EXTERNAL] Maverick- Sampling Notification (Week of 06/27/22-07/01/22)

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Thursday, June 23, 2022 1:30 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Subject: [EXTERNAL] Maverick- Sampling Notification (Week of 06/27/22-07/01/22)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Maverick Natural Resources plans to complete final sampling activities at the following sites the week of June 27, 2022.

Monday:

- Hudson 001 / NAPP2201142906
- MCA 328 / NAPP2201143320
- MCA 308 / NAPP2202535435

Tuesday:

- MCA 308 / NAPP2202535435

Wednesday:

- MCA 308 / NAPP2202535435

Thursday:

Friday:

Thank you,

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

From: Nobui, Jennifer, EMNRD
To: Kalei Jennings
Cc: Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Subject: FW: [EXTERNAL] Maverick- Sampling Notification (Week of 07/04/22-07/08/22)
Date: Wednesday, June 29, 2022 12:56:30 PM
Attachments: image001.png
image002.png
image003.png
image004.png

[**EXTERNAL EMAIL**]

Kalei

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks,
Jennifer Nobui

From: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Sent: Wednesday, June 29, 2022 11:38 AM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>; Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>
Subject: Fw: [EXTERNAL] Maverick- Sampling Notification (Week of 07/04/22-07/08/22)

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Wednesday, June 29, 2022 10:59 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Thomas Haigood <Thomas.Haigood@mavresources.com>; Jason Thomas <jason.thomas@mavresources.com>
Subject: [EXTERNAL] Maverick- Sampling Notification (Week of 07/04/22-07/08/22)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Maverick Natural Resources plans to complete final sampling activities at the following sites the week of July 4, 2022.

Monday:

- HOLIDAY

Tuesday:

- MCA 308 / NAPP2202535435

Wednesday:

- MCA 308 / NAPP2202535435

Thursday:

Friday:

Thank you,

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 125392

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 125392
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved. Please implement 19.15.29.13 NMAC when completing P&A.	7/20/2022