ENSOLUM

July 1, 2022

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

Re: Closure Request
Hudson 001 Tank Battery
Incident Number NAPP2201142906
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 Hudson 001 Tank Battery (Site). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release of produced water at the Site. Based on the excavation activities and analytical results from the soil sampling events, Maverick is submitting this Closure Request, describing remediation that has occurred and requesting closure for Incident Number NAPP2201142906.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit M, Section 15, Township 17 South, Range 32 East, in Lea County, New Mexico (32.82928° N, 103.76147° W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) Federal Land.

On January 3, 2022, a tank malfunctioned and resulted in the release of 5.13 barrels (bbls) of produced water onto the surface of the well pad. 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 18, 2022. The release was assigned Incident Number NAPP2201142906.

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-12521, located approximately 1.2 miles southwest of the Site. The groundwater well has a reported depth to

groundwater of 92 feet bgs and a total depth of 105 feet bgs. Ground surface elevation at the groundwater well location is 4,014 feet above mean sea level (amsl), which is approximately 8 feet lower in elevation than the Site. Regionally, depth to water surrounding the Site ranging from 75 feet to 125 feet bgs, corroberating data from NMOSE well RA-12521, which reasonalbly estimates depth to water beneath the Site. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 5,765 feet east of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, 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

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On March 15, 2022, site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Six preliminary assessment soil samples (SS01 through SS06) were collected within and around the release extent from a depth of 0.5 feet bgs, to assess the lateral extent of the release. The preliminary soil samples were field screened for volatile aromatic hydrocarbons utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and preliminary soil sample locations were mapped utilizing a handheld global positioning system (GPS) unit and are depicted on Figure 2.

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

Laboratory analytical results for preliminary soil samples SS01 and SS02, collected within the release extent, indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for preliminary soil samples SS03 through SS06, collected around the release extent, indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the most stringent Table 1 Closure Criteria, and successfully defined the lateral extent of the release. Based on visible staining in the release area and elevated field screening results, delineation and excavation activities were warranted.

DELINEATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

On March 21, 2022, Ensolum personnel were at the Site to oversee vertical delineation activities. Boreholes BH01 and BH02 were advanced via hand auger in the vicinity of preliminary soil sample locations SS01 and SS02, to assess the vertical extent of impacted soil. The boreholes were advanced to a depth of 2 feet bgs. Two delineation soil samples (BH01/BH01A and BH02/BH02A) were collected from each borehole at depths of 1-foot and 2 feet bgs. Soil from the boreholes was field screened for volatile aromatic hydrocarbons and chloride. Field screening results and observations for the boreholes were logged on lithologic soil sampling logs, which are included in Appendix B. The soil samples were collected, handled, and analyzed following the same procedures as described above. The borehole and delineation soil sample locations are depicted on Figure 3.

Laboratory analytical results for delineation soil samples BH01, BH01A, BH02, and BH02A indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Delineation samples BH02 and BH02A were also compliant with the most stringent Table 1 Closure Criteria.

EXCAVATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

On June 24, 2022, Ensolum personnel returned to the Site to oversee excavation of visibly stained soil in the release area. Excavation activities were performed using a track-mounted backhoe and transport vehicle. To direct excavation activities, soil was screened for volatile aromatic hydrocarbons and chloride. The excavation was completed to depths ranging from 0.75 feet to 2.5 feet bgs.

Following removal of the stained soil, 5-point composite soil samples were collected at least 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 and FS02 were collected from the floor of the excavation from depths ranging from 0.75 feet to 2.5 feet bgs. Composite soil sample SW01 was collected from the sidewall of the deeper portion of the excavation. 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 4. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix C.

The excavation measured approximately 260 square feet in areal extent. A total of approximately 15 cubic yards of stained soil were removed during the excavation activities. The soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico.

Laboratory analytical results for excavation soil samples FS01, FS02, and SW01 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 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 3, 2022, release of produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. Additionally, the release was laterally delineated to below the most stringent Table 1 Closure Criteria. Based on the soil sample analytical results, no further remediation appeared

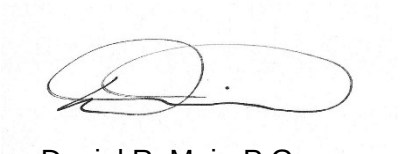
necessary. Maverick will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

Excavation of stained soil has mitigated adverse impacts to this Site. Depth to groundwater has been estimated to be greater than 50 feet bgs and no other 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 NAPP2201142906. 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, LLC
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	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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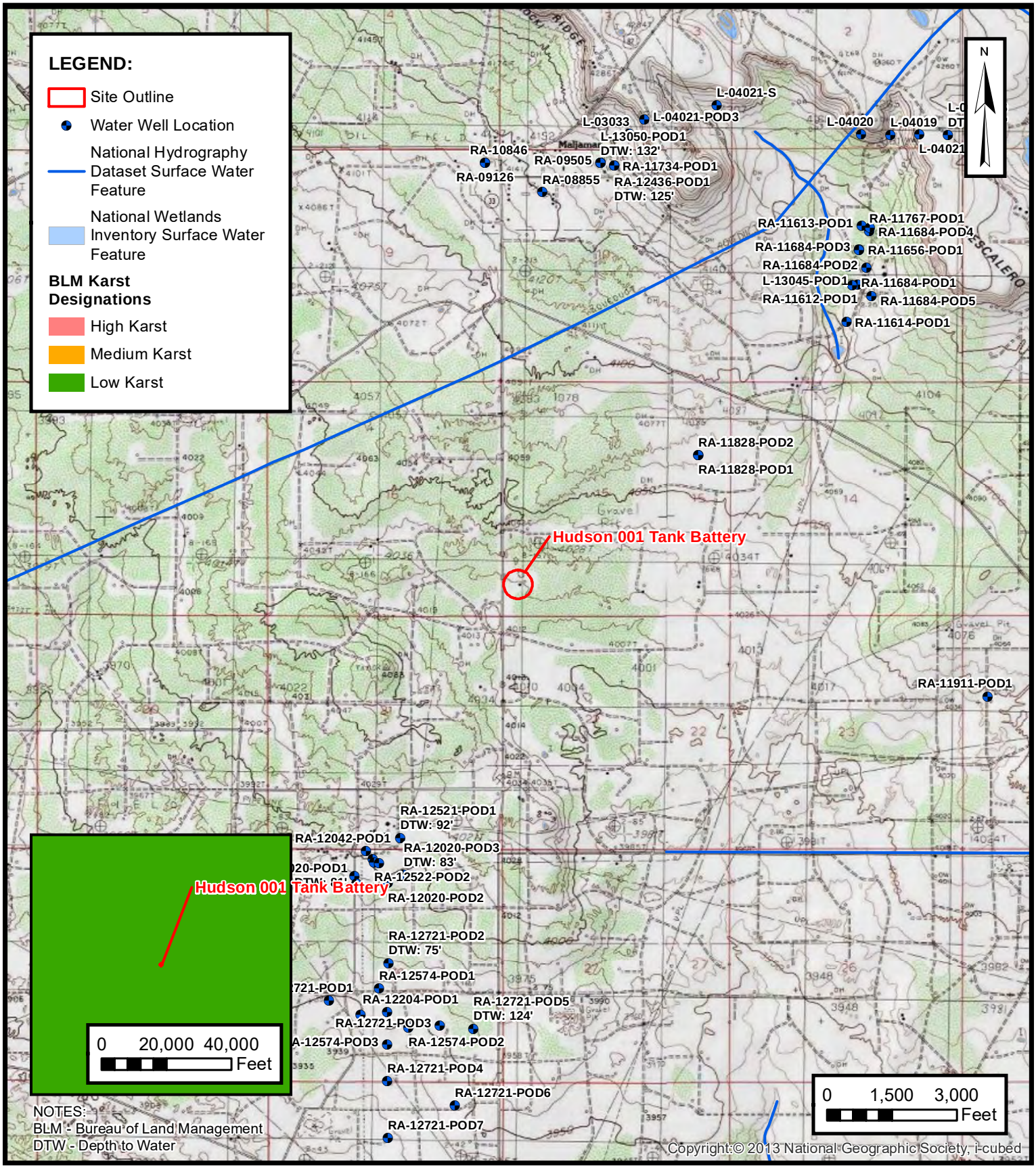
FIGURES



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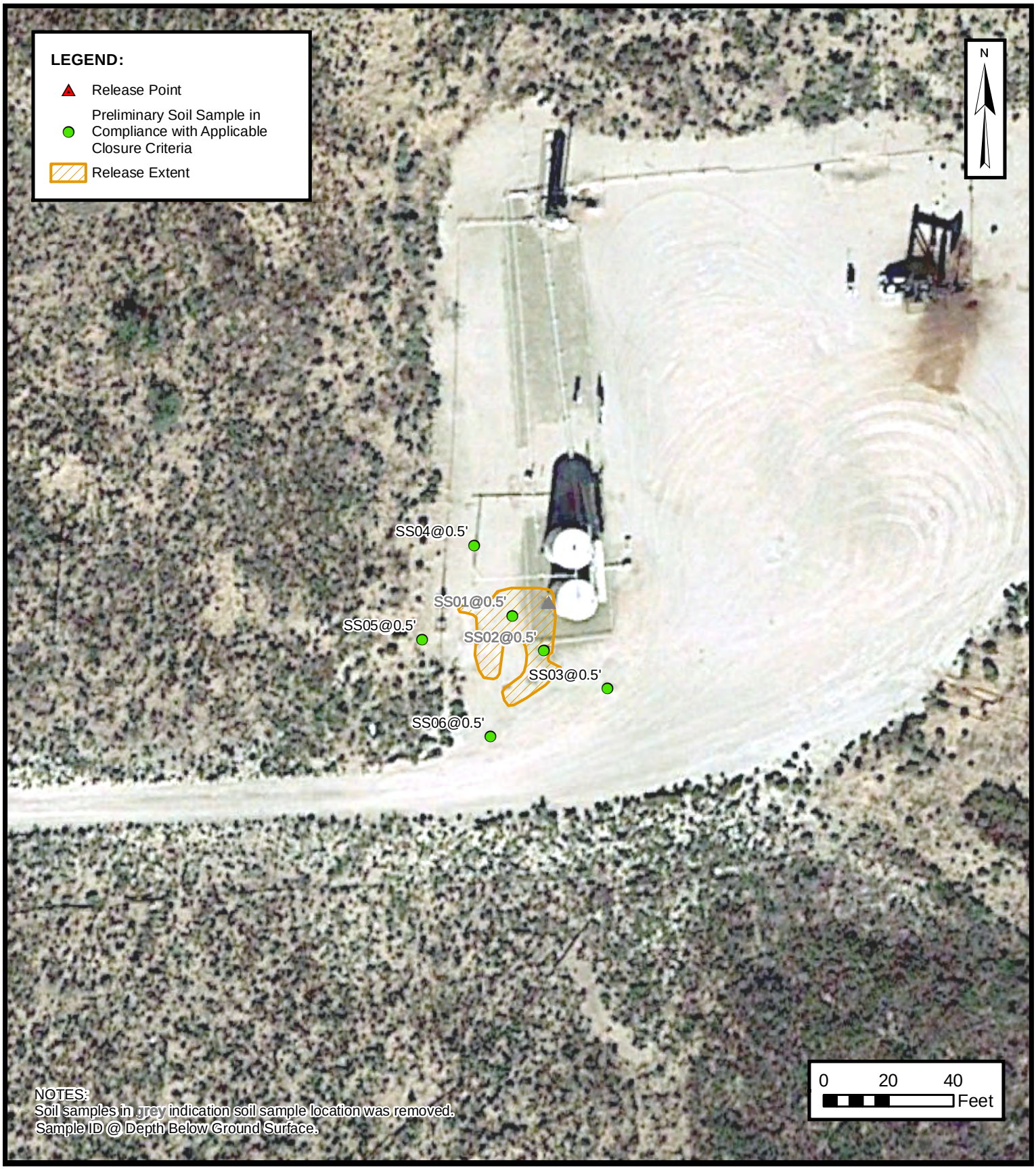
SITE RECEPTOR MAP

MAVERICK NATURAL RESOURCES, LLC
HUDSON 001 TANK BATTERY
NAPP2201142906
Unit M, Sec 15, T17S, R32E
Lea County, New Mexico

FIGURE
1



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PRELIMINARY SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
HUDSON 001 TANK BATTERY
NAPP2201142906
Unit M, Sec 15, T17S, R32E
Lea County, New Mexico

FIGURE
2

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DELINEATION SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
HUDSON 001 TANK BATTERY
NAPP2201142906
Unit M, Sec 15, T17S, R32E
Lea County, New Mexico

FIGURE

3

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EXCAVATION SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
HUDSON 001 TANK BATTERY
NAPP2201142906
Unit M, Sec 15, T17S, R32E
Lea County, New Mexico

FIGURE
4

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Hudson 001 Tank Battery
Maverick Natural Resources, LLC
Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**10,000**
Preliminary Soil Samples										
SS01	03/15/2022	0.5	<0.00198	<0.00397	<50.0	82.0	<50.0	82.0	82.0	2,570
SS02	03/15/2022	0.5	<0.00199	<0.00398	<50.0	94.8	55.6	94.8	150	3,050
SS03	03/15/2022	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	14.1
SS04	03/15/2022	0.5	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	11.3
SS05	03/15/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	10.3
SS06	03/15/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<9.90
Delineation Soil Samples										
BH01	03/21/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	1,390
BH01A	03/21/2022	2	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	1,170
BH02	03/21/2022	1	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	123
BH02A	03/21/2022	2	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	23.3
Excavation Floor Soil Samples										
FS01	06/24/2022	2.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	29.8
FS02	06/24/2022	0.75	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	21.4
Excavation Sidewall Soil Samples										
SW01	06/24/2022	0-2.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	49.5

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
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 12521 **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

Contact: BECKY HESSLEN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	609310	EXPL	2017-06-30	PMT	LOG	RA 12521 POD1	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 12521 POD1		Shallow	3	3	4	21	17S	32E	615127	3631271	MW-24

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 12521 POD1	3	3	4	21	17S	32E	615127	3631271

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

Driller Name: WHITE, JOHN W

Drill Start Date: 07/21/2017 **Drill Finish Date:** 07/26/2017 **Plug Date:**

Log File Date: 08/22/2017 **PCW Rcv Date:** **Source:** Shallow

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

Casing Size: 2.00 **Depth Well:** 105 feet **Depth Water:** 92 feet

Water Bearing Stratifications:	Top	Bottom	Description
	85	101	Sandstone/Gravel/Conglomerate
	101	105	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	75	105

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 325028103441301 17S.32E.11.34332

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:
Latitude 32°50'32", Longitude 103°44'24" NAD27
Lea County, New Mexico , Hydrologic Unit 13060011
Well depth: not determined.
Land surface altitude: 4,095.50 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Ogallala Formation" (121OGLL) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1961-03-10	1996-02-20	8
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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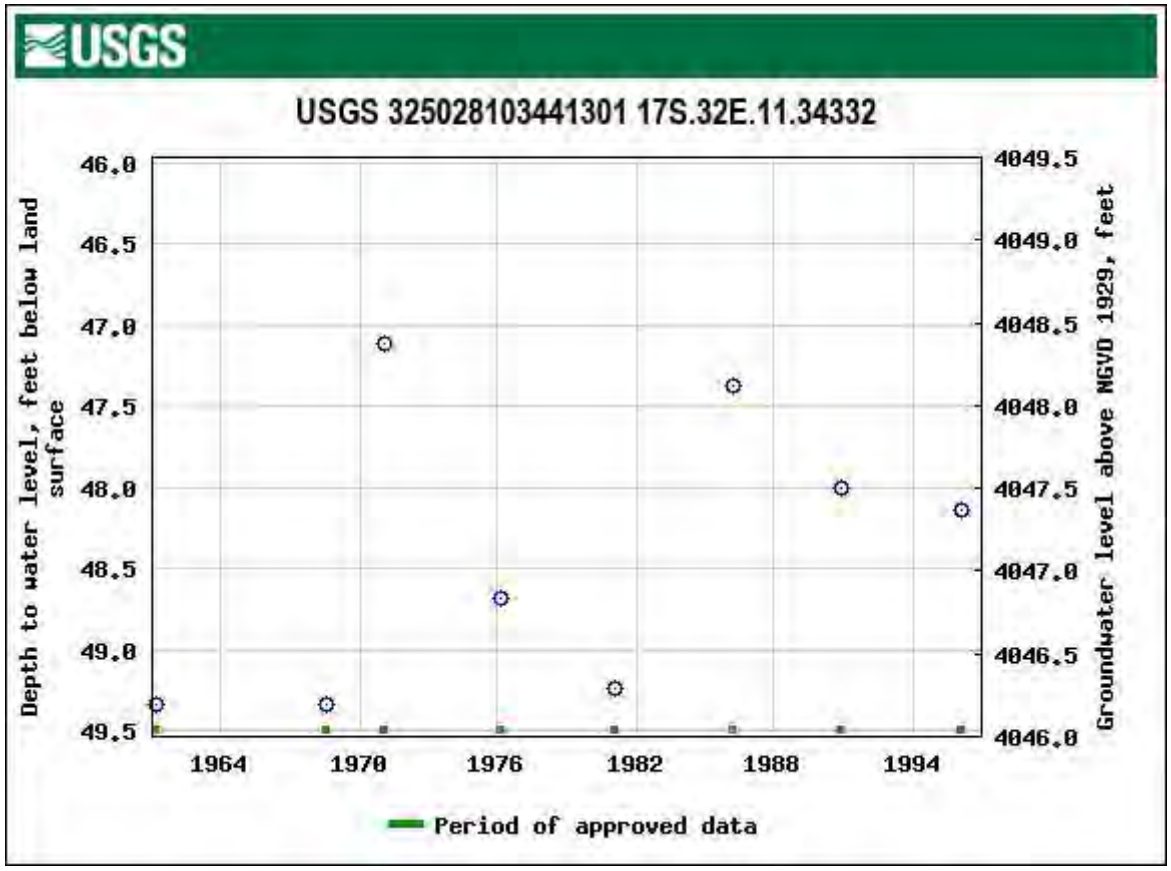
Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

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=325028103441301

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2022-03-24 10:55:51 EDT
0.27 0.25 caww01


USGS
USGS 325028103441301 17S.32E.11.34332
Depth to water level, feet below land surface
46.0
46.5
47.0
47.5
48.0
48.5
49.0
49.5
Groundwater level above NGVD 1929, feet
4049.5
4049.0
4048.5
4048.0
4047.5
4047.0
4046.5
4046.0
1964
1970
1976
1982
1988
1994
Period of approved data

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APPENDIX B

Lithologic Soil Sampling Logs

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	Sample Name: **BH01**	Date: **03/21/2022**
	Site Name: **Hudson 001**	
	Incident Number: **NAPP2201142906**	
	Job Number: 03D2057001	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: **Hand-Auger**
Coordinates:	Hole Diameter: NA	Total Depth: **2'**

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		
M	2,178	2.0	Y	BH01	1	1	CCHE	moist, fine sand, light brown, poorly graded sand, non-cohesive, no odor.
M	2,670	0.7	Y	BH01A	2	2	CCHE	SAA.

TD @ 2 feet bgs

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	Sample Name: **BH02**	Date: **03/21/2022**
	Site Name: **Hudson 001**	
	Incident Number: **NAPP2201142906**	
	Job Number: 03D2057001	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: **Hand-Auger**
Coordinates:	Hole Diameter: NA	Total Depth: **2'**

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		
M	201.6	0.2	Y	BH02	1	1	CCHE	moist, fine sand, light brown, poorly graded sand, non-cohesive, no odor.
M	<128	0.2	Y	BH02A	2	2	CCHE	SAA.

TD @ 2 feet bgs

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APPENDIX C

Photographic Log

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Photographic Log
Maverick Natural Resources, LLC
Hudson 001 Tank Battery
Incident Number NAPP2201142906

Photograph 1
Date: March 15, 2022
Description: View of release area prior to remediation activities.

Photograph 2
Date: March 21, 2022
Description: View of delineation activities near BH02 location.

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Photographic Log
Maverick Natural Resources, LLC
Hudson 001 Tank Battery
Incident Number NAPP2201142906

Photograph 1
Date: June 24, 2022
Description: View of excavation activities near FS01.

Photograph 2
Date: June 24, 2022
Description: View of excavation activities near FS02.

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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: 890-2085-1
Laboratory Sample Delivery Group: 31403720.000 Task 14.02
Client Project/Site: Hudson Battery

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
4/7/2022 12:48:22 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: WSP USA Inc.
Project/Site: Hudson Battery

Laboratory Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
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. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

Job ID: 890-2085-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2085-1

Receipt
The samples were received on 3/16/2022 1:26 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-21824 and analytical batch 880-22110 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 880-21834 and analytical batch 880-21858 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
Method 300_ORGFM_28D: The sample was prepared in duplicate on two prep separate prep batches. The laboratory control sample (LCS) for both batches recovered outside control limits for the following analytes:chloride at 111% and 115%. The sample results for but trial are in line and will both be reported.

Method 300_ORGFM_28D: The sample was prepared in duplicate on two prep separate prep batches. The laboratory control sample (LCS) for both batches recovered outside control limits for the following analytes:chloride at 116% and 115%. The sample results for but trial are in line and will both be reported.

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: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Client Sample ID: SS01

Lab Sample ID: 890-2085-1
Matrix: Solid
Date Collected: 03/15/22 14:35
Date Received: 03/16/22 13:26
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		03/22/22 16:00	03/22/22 20:10	1
Toluene	<0.00198	U	0.00198		mg/Kg		03/22/22 16:00	03/22/22 20:10	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		03/22/22 16:00	03/22/22 20:10	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		03/22/22 16:00	03/22/22 20:10	1
o-Xylene	<0.00198	U *1	0.00198		mg/Kg		03/22/22 16:00	03/22/22 20:10	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		03/22/22 16:00	03/22/22 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*03/22/22 16:00*	*03/22/22 20:10*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*03/22/22 16:00*	*03/22/22 20:10*	*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			03/23/22 14:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**82.0**		50.0		mg/Kg			03/21/22 09:28	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/17/22 16:29	03/18/22 17:16	1
Diesel Range Organics (Over C10-C28)	**82.0**		50.0		mg/Kg		03/17/22 16:29	03/18/22 17:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/17/22 16:29	03/18/22 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*03/17/22 16:29*	*03/18/22 17:16*	*1*
o-Terphenyl	*107*		*70 - 130*	*03/17/22 16:29*	*03/18/22 17:16*	*1*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2570**	*+	499		mg/Kg			04/05/22 15:04	50

Client Sample ID: SS02

Lab Sample ID: 890-2085-2
Matrix: Solid
Date Collected: 03/15/22 14:40
Date Received: 03/16/22 13:26
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/22/22 16:00	03/22/22 20:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/22/22 16:00	03/22/22 20:30	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/22/22 16:00	03/22/22 20:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/22/22 16:00	03/22/22 20:30	1
o-Xylene	<0.00199	U *1	0.00199		mg/Kg		03/22/22 16:00	03/22/22 20:30	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/22/22 16:00	03/22/22 20:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*03/22/22 16:00*	*03/22/22 20:30*	*1*

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Client Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Client Sample ID: SS02

Lab Sample ID: 890-2085-2

Date Collected: 03/15/22 14:40
Matrix: Solid
Date Received: 03/16/22 13:26
Sample Depth: 0.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*03/22/22 16:00*	*03/22/22 20:30*	*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			03/23/22 14:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**150**		50.0		mg/Kg			03/21/22 09:28	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/17/22 16:29	03/18/22 17:38	1
Diesel Range Organics (Over C10-C28)	**94.8**		50.0		mg/Kg		03/17/22 16:29	03/18/22 17:38	1
Oil Range Organics (Over C28-C36)	**55.6**		50.0		mg/Kg		03/17/22 16:29	03/18/22 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*03/17/22 16:29*	*03/18/22 17:38*	*1*
o-Terphenyl	*94*		*70 - 130*	*03/17/22 16:29*	*03/18/22 17:38*	*1*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3050**	***+**	986		mg/Kg			04/05/22 22:36	100

Client Sample ID: SS03

Lab Sample ID: 890-2085-3

Date Collected: 03/15/22 14:45
Matrix: Solid
Date Received: 03/16/22 13:26
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/22/22 16:00	03/22/22 20:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/22 16:00	03/22/22 20:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/22 16:00	03/22/22 20:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/22/22 16:00	03/22/22 20:51	1
o-Xylene	<0.00200	U *1	0.00200		mg/Kg		03/22/22 16:00	03/22/22 20:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/22/22 16:00	03/22/22 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*03/22/22 16:00*	*03/22/22 20:51*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*03/22/22 16:00*	*03/22/22 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			03/23/22 14:31	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Client Sample ID: SS03

Lab Sample ID: 890-2085-3
Matrix: Solid
Date Collected: 03/15/22 14:45
Date Received: 03/16/22 13:26
Sample Depth: 0.5

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			03/21/22 09:28	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/17/22 16:29	03/18/22 17:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/17/22 16:29	03/18/22 17:58	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/17/22 16:29	03/18/22 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*03/17/22 16:29*	*03/18/22 17:58*	*1*
o-Terphenyl	*89*		*70 - 130*	*03/17/22 16:29*	*03/18/22 17:58*	*1*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14.1**	***+**	9.96		mg/Kg			04/05/22 15:37	1

Client Sample ID: SS04

Lab Sample ID: 890-2085-4
Matrix: Solid
Date Collected: 03/15/22 14:50
Date Received: 03/16/22 13:26
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		03/22/22 16:00	03/22/22 21:11	1
Toluene	<0.00202	U	0.00202		mg/Kg		03/22/22 16:00	03/22/22 21:11	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		03/22/22 16:00	03/22/22 21:11	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		03/22/22 16:00	03/22/22 21:11	1
o-Xylene	<0.00202	U *1	0.00202		mg/Kg		03/22/22 16:00	03/22/22 21:11	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		03/22/22 16:00	03/22/22 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*03/22/22 16:00*	*03/22/22 21:11*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*03/22/22 16:00*	*03/22/22 21:11*	*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			03/23/22 14:31	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			03/21/22 09:28	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/17/22 16:29	03/18/22 18:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/17/22 16:29	03/18/22 18:19	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/17/22 16:29	03/18/22 18:19	1

Client Sample Results

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

Client Sample ID: SS04 Lab Sample ID: 890-2085-4

Date Collected: 03/15/22 14:50 **Matrix: Solid**
Date Received: 03/16/22 13:26
Sample Depth: 0.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*03/17/22 16:29*	*03/18/22 18:19*	*1*
o-Terphenyl	*107*		*70 - 130*	*03/17/22 16:29*	*03/18/22 18:19*	*1*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.3	*+	9.98	mg/Kg			04/05/22 23:09	1

Client Sample ID: SS05 Lab Sample ID: 890-2085-5

Date Collected: 03/15/22 14:55 **Matrix: Solid**
Date Received: 03/16/22 13:26
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/22/22 16:00	03/22/22 21:32	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/22/22 16:00	03/22/22 21:32	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/22/22 16:00	03/22/22 21:32	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		03/22/22 16:00	03/22/22 21:32	1
o-Xylene	<0.00201	U *1	0.00201	mg/Kg		03/22/22 16:00	03/22/22 21:32	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/22/22 16:00	03/22/22 21:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*03/22/22 16:00*	*03/22/22 21:32*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*03/22/22 16:00*	*03/22/22 21:32*	*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			03/23/22 14:31	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			03/21/22 09:28	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/17/22 16:29	03/18/22 18:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/17/22 16:29	03/18/22 18:40	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/17/22 16:29	03/18/22 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*03/17/22 16:29*	*03/18/22 18:40*	*1*
o-Terphenyl	*90*		*70 - 130*	*03/17/22 16:29*	*03/18/22 18:40*	*1*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.3	*+	10.0	mg/Kg			04/05/22 15:26	1

Client Sample Results

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

Client Sample ID: SS06 **Lab Sample ID: 890-2085-6**
Date Collected: 03/15/22 15:10 **Matrix: Solid**
Date Received: 03/16/22 13:26
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/22/22 16:00	03/22/22 21:52	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/22/22 16:00	03/22/22 21:52	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/22/22 16:00	03/22/22 21:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/22/22 16:00	03/22/22 21:52	1
o-Xylene	<0.00199	U *1	0.00199		mg/Kg		03/22/22 16:00	03/22/22 21:52	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/22/22 16:00	03/22/22 21:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*03/22/22 16:00*	*03/22/22 21:52*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*03/22/22 16:00*	*03/22/22 21:52*	*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			03/23/22 14:31	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			03/21/22 09:28	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/17/22 16:29	03/18/22 19:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/17/22 16:29	03/18/22 19:01	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/17/22 16:29	03/18/22 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*03/17/22 16:29*	*03/18/22 19:01*	*1*
o-Terphenyl	*97*		*70 - 130*	*03/17/22 16:29*	*03/18/22 19:01*	*1*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<9.90	U *+	9.90		mg/Kg			04/05/22 23:20	1

Surrogate Summary

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

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)
880-12580-A-2-F MS	Matrix Spike	107	100
880-12580-A-2-G MSD	Matrix Spike Duplicate	115	101
890-2085-1	SS01	107	105
890-2085-2	SS02	103	106
890-2085-3	SS03	105	96
890-2085-4	SS04	108	102
890-2085-5	SS05	111	105
890-2085-6	SS06	111	103
LCS 880-21824/1-A	Lab Control Sample	66 S1-	82
LCSD 880-21824/2-A	Lab Control Sample Dup	98	101
MB 880-21824/5-A	Method Blank	97	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2083-A-1-D MS	Matrix Spike	117	102
890-2083-A-1-E MSD	Matrix Spike Duplicate	98	85
890-2085-1	SS01	106	107
890-2085-2	SS02	94	94
890-2085-3	SS03	93	89
890-2085-4	SS04	106	107
890-2085-5	SS05	92	90
890-2085-6	SS06	97	97
LCS 880-21834/2-A	Lab Control Sample	115	121
LCSD 880-21834/3-A	Lab Control Sample Dup	108	108
MB 880-21834/1-A	Method Blank	117	123

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21824/5-A
Matrix: Solid
Analysis Batch: 22110

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 21824

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/22/22 08:30	03/22/22 11:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/22 08:30	03/22/22 11:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/22 08:30	03/22/22 11:48	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/22/22 08:30	03/22/22 11:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/22 08:30	03/22/22 11:48	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/22/22 08:30	03/22/22 11:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/22/22 08:30*	*03/22/22 11:48*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/22/22 08:30*	*03/22/22 11:48*	*1*

Lab Sample ID: LCS 880-21824/1-A
Matrix: Solid
Analysis Batch: 22110

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21824

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09232		mg/Kg		92	70 - 130		
Toluene			0.100	0.07065		mg/Kg		71	70 - 130		
Ethylbenzene			0.100	0.07639		mg/Kg		76	70 - 130		
m-Xylene & p-Xylene			0.200	0.1613		mg/Kg		81	70 - 130		
o-Xylene			0.100	0.07659		mg/Kg		77	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*

Lab Sample ID: LCSD 880-21824/2-A
Matrix: Solid
Analysis Batch: 22110

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21824

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09025		mg/Kg		90	70 - 130	2	35
Toluene			0.100	0.09279		mg/Kg		93	70 - 130	27	35
Ethylbenzene			0.100	0.09629		mg/Kg		96	70 - 130	23	35
m-Xylene & p-Xylene			0.200	0.2262		mg/Kg		113	70 - 130	34	35
o-Xylene			0.100	0.1104	*1	mg/Kg		110	70 - 130	36	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-12580-A-2-F MS
Matrix: Solid
Analysis Batch: 22110

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 21824

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U F1	0.101	0.05117	F1	mg/Kg		51	70 - 130		
Toluene	<0.00198	U F1	0.101	0.04128	F1	mg/Kg		40	70 - 130		

QC Sample Results

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

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

Lab Sample ID: 880-12580-A-2-F MS **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 22110 **Prep Batch: 21824**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U F1	0.101	0.02784	F1	mg/Kg		26	70 - 130
m-Xylene & p-Xylene	<0.00396	U F1	0.202	0.06306	F1	mg/Kg		31	70 - 130
o-Xylene	<0.00198	U F1 *1	0.101	0.03119	F1	mg/Kg		30	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-12580-A-2-G MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 22110 **Prep Batch: 21824**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U F1	0.0998	0.04373	F1	mg/Kg		44	70 - 130	16	35
Toluene	<0.00198	U F1	0.0998	0.03568	F1	mg/Kg		34	70 - 130	15	35
Ethylbenzene	<0.00198	U F1	0.0998	0.02372	F1	mg/Kg		22	70 - 130	16	35
m-Xylene & p-Xylene	<0.00396	U F1	0.200	0.05318	F1	mg/Kg		27	70 - 130	17	35
o-Xylene	<0.00198	U F1 *1	0.0998	0.02713	F1	mg/Kg		26	70 - 130	14	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

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

Lab Sample ID: MB 880-21834/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 21858 **Prep Batch: 21834**

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		03/17/22 16:29	03/18/22 11:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/17/22 16:29	03/18/22 11:38	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/17/22 16:29	03/18/22 11:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*03/17/22 16:29*	*03/18/22 11:38*	*1*
o-Terphenyl	*123*		*70 - 130*	*03/17/22 16:29*	*03/18/22 11:38*	*1*

Lab Sample ID: LCS 880-21834/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 21858 **Prep Batch: 21834**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	872.7		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1134		mg/Kg		113	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

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

Lab Sample ID: LCS 880-21834/2-A
Matrix: Solid
Analysis Batch: 21858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 21834

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*115*		*70 - 130*
o-Terphenyl	*121*		*70 - 130*

Lab Sample ID: LCSD 880-21834/3-A
Matrix: Solid
Analysis Batch: 21858

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 21834

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	866.5		mg/Kg		87	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1026		mg/Kg		103	70 - 130	10	20

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

Lab Sample ID: 890-2083-A-1-D MS
Matrix: Solid
Analysis Batch: 21858

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 21834

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	998	1574	F1	mg/Kg		158	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	998	1355	F1	mg/Kg		133	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*102*		*70 - 130*

Lab Sample ID: 890-2083-A-1-E MSD
Matrix: Solid
Analysis Batch: 21858

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 21834

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	999	1388	F1	mg/Kg		139	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1149		mg/Kg		112	70 - 130	16	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: LCS 410-238796/1-A
Matrix: Solid
Analysis Batch: 240174

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	23.01	*+	mg/Kg		115	90 - 110		

Lab Sample ID: 890-2083-A-1-J MS
Matrix: Solid
Analysis Batch: 240174

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	13.3	*+	19.7	32.27		mg/Kg		96	90 - 110		

Lab Sample ID: MB 410-240233/2-A
Matrix: Solid
Analysis Batch: 241096

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg			04/05/22 10:12	1

Lab Sample ID: 890-2090-A-3-G MS
Matrix: Solid
Analysis Batch: 241096

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	<498	U *+	19.9	<498	U 4	mg/Kg		369	90 - 110		

Lab Sample ID: 890-2090-A-12-G MS
Matrix: Solid
Analysis Batch: 241096

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	464	*+	20.0	456.1	4	mg/Kg		-42	90 - 110		

Lab Sample ID: 890-2090-A-3-H DU
Matrix: Solid
Analysis Batch: 241096

Client Sample ID: Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chloride	<498	U *+		<500	U *+	mg/Kg				10	15

Lab Sample ID: 890-2085-2 MS
Matrix: Solid
Analysis Batch: 241583

Client Sample ID: SS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3050	*+	19.7	3968	4 *+	mg/Kg		4669	90 - 110		

Lab Sample ID: 890-2085-2 DU
Matrix: Solid
Analysis Batch: 241583

Client Sample ID: SS02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chloride	3050	*+		3767	F5 *+	mg/Kg				21	15

QC Association Summary

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

GC VOA

Prep Batch: 21824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Total/NA	Solid	5035	
890-2085-2	SS02	Total/NA	Solid	5035	
890-2085-3	SS03	Total/NA	Solid	5035	
890-2085-4	SS04	Total/NA	Solid	5035	
890-2085-5	SS05	Total/NA	Solid	5035	
890-2085-6	SS06	Total/NA	Solid	5035	
MB 880-21824/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-21824/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-21824/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-12580-A-2-F MS	Matrix Spike	Total/NA	Solid	5035	
880-12580-A-2-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 22110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Total/NA	Solid	8021B	21824
890-2085-2	SS02	Total/NA	Solid	8021B	21824
890-2085-3	SS03	Total/NA	Solid	8021B	21824
890-2085-4	SS04	Total/NA	Solid	8021B	21824
890-2085-5	SS05	Total/NA	Solid	8021B	21824
890-2085-6	SS06	Total/NA	Solid	8021B	21824
MB 880-21824/5-A	Method Blank	Total/NA	Solid	8021B	21824
LCS 880-21824/1-A	Lab Control Sample	Total/NA	Solid	8021B	21824
LCSD 880-21824/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	21824
880-12580-A-2-F MS	Matrix Spike	Total/NA	Solid	8021B	21824
880-12580-A-2-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	21824

Analysis Batch: 22213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Total/NA	Solid	Total BTEX	
890-2085-2	SS02	Total/NA	Solid	Total BTEX	
890-2085-3	SS03	Total/NA	Solid	Total BTEX	
890-2085-4	SS04	Total/NA	Solid	Total BTEX	
890-2085-5	SS05	Total/NA	Solid	Total BTEX	
890-2085-6	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 21834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Total/NA	Solid	8015NM Prep	
890-2085-2	SS02	Total/NA	Solid	8015NM Prep	
890-2085-3	SS03	Total/NA	Solid	8015NM Prep	
890-2085-4	SS04	Total/NA	Solid	8015NM Prep	
890-2085-5	SS05	Total/NA	Solid	8015NM Prep	
890-2085-6	SS06	Total/NA	Solid	8015NM Prep	
MB 880-21834/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-21834/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-21834/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2083-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2083-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

GC Semi VOA

Analysis Batch: 21858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Total/NA	Solid	8015B NM	21834
890-2085-2	SS02	Total/NA	Solid	8015B NM	21834
890-2085-3	SS03	Total/NA	Solid	8015B NM	21834
890-2085-4	SS04	Total/NA	Solid	8015B NM	21834
890-2085-5	SS05	Total/NA	Solid	8015B NM	21834
890-2085-6	SS06	Total/NA	Solid	8015B NM	21834
MB 880-21834/1-A	Method Blank	Total/NA	Solid	8015B NM	21834
LCS 880-21834/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	21834
LCSD 880-21834/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	21834
890-2083-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	21834
890-2083-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	21834

Analysis Batch: 21990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Total/NA	Solid	8015 NM	
890-2085-2	SS02	Total/NA	Solid	8015 NM	
890-2085-3	SS03	Total/NA	Solid	8015 NM	
890-2085-4	SS04	Total/NA	Solid	8015 NM	
890-2085-5	SS05	Total/NA	Solid	8015 NM	
890-2085-6	SS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 238796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Soluble	Solid	DI Leach	
890-2085-2	SS02	Soluble	Solid	DI Leach	
890-2085-3	SS03	Soluble	Solid	DI Leach	
890-2085-4	SS04	Soluble	Solid	DI Leach	
890-2085-5	SS05	Soluble	Solid	DI Leach	
890-2085-6	SS06	Soluble	Solid	DI Leach	
MB 410-238796/2-A	Method Blank	Soluble	Solid	DI Leach	
LCS 410-238796/1-A	Lab Control Sample	Soluble	Solid	DI Leach	
890-2083-A-1-J MS	Matrix Spike	Soluble	Solid	DI Leach	

Analysis Batch: 239322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Soluble	Solid	EPA 300.0 R2.1	238796
890-2085-2	SS02	Soluble	Solid	EPA 300.0 R2.1	238796
MB 410-238796/2-A	Method Blank	Soluble	Solid	EPA 300.0 R2.1	238796
LCS 410-238796/1-A	Lab Control Sample	Soluble	Solid	EPA 300.0 R2.1	238796

Analysis Batch: 240174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-3	SS03	Soluble	Solid	EPA 300.0 R2.1	238796
890-2085-4	SS04	Soluble	Solid	EPA 300.0 R2.1	238796
890-2085-5	SS05	Soluble	Solid	EPA 300.0 R2.1	238796
890-2085-6	SS06	Soluble	Solid	EPA 300.0 R2.1	238796
LCS 410-238796/1-A	Lab Control Sample	Soluble	Solid	EPA 300.0 R2.1	238796
890-2083-A-1-J MS	Matrix Spike	Soluble	Solid	EPA 300.0 R2.1	238796

QC Association Summary

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

HPLC/IC

Leach Batch: 240233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Soluble	Solid	DI Leach	
890-2085-3	SS03	Soluble	Solid	DI Leach	
890-2085-5	SS05	Soluble	Solid	DI Leach	
MB 410-240233/2-A	Method Blank	Soluble	Solid	DI Leach	
890-2090-A-3-G MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2090-A-12-G MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2090-A-3-H DU	Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 240274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-2	SS02	Soluble	Solid	DI Leach	
890-2085-4	SS04	Soluble	Solid	DI Leach	
890-2085-6	SS06	Soluble	Solid	DI Leach	
890-2085-2 MS	SS02	Soluble	Solid	DI Leach	
890-2085-2 DU	SS02	Soluble	Solid	DI Leach	

Analysis Batch: 241096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-1	SS01	Soluble	Solid	EPA 300.0 R2.1	240233
890-2085-3	SS03	Soluble	Solid	EPA 300.0 R2.1	240233
890-2085-5	SS05	Soluble	Solid	EPA 300.0 R2.1	240233
MB 410-240233/2-A	Method Blank	Soluble	Solid	EPA 300.0 R2.1	240233
890-2090-A-3-G MS	Matrix Spike	Soluble	Solid	EPA 300.0 R2.1	240233
890-2090-A-12-G MS	Matrix Spike	Soluble	Solid	EPA 300.0 R2.1	240233
890-2090-A-3-H DU	Duplicate	Soluble	Solid	EPA 300.0 R2.1	240233

Analysis Batch: 241583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2085-2	SS02	Soluble	Solid	EPA 300.0 R2.1	240274
890-2085-4	SS04	Soluble	Solid	EPA 300.0 R2.1	240274
890-2085-6	SS06	Soluble	Solid	EPA 300.0 R2.1	240274
890-2085-2 MS	SS02	Soluble	Solid	EPA 300.0 R2.1	240274
890-2085-2 DU	SS02	Soluble	Solid	EPA 300.0 R2.1	240274

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Client Sample ID: SS01

Lab Sample ID: 890-2085-1
Matrix: Solid
Date Collected: 03/15/22 14:35
Date Received: 03/16/22 13:26

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	21824	03/22/22 16:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22110	03/22/22 20:10	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22213	03/23/22 14:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21990	03/21/22 09:28	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21834	03/17/22 16:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21858	03/18/22 17:16	AJ	XEN MID
Soluble	Leach	DI Leach			5.00 g	50 mL	238796	03/29/22 15:26	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		50			239322	03/30/22 18:54	W5UX	ELLE
Soluble	Leach	DI Leach			5.01 g	50 mL	240233	04/01/22 15:26	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		50			241096	04/05/22 15:04	L4QM	ELLE

Client Sample ID: SS02

Lab Sample ID: 890-2085-2
Matrix: Solid
Date Collected: 03/15/22 14:40
Date Received: 03/16/22 13:26

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	21824	03/22/22 16:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22110	03/22/22 20:30	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22213	03/23/22 14:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21990	03/21/22 09:28	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21834	03/17/22 16:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21858	03/18/22 17:38	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	238796	03/29/22 15:26	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		50			239322	03/30/22 19:38	W5UX	ELLE
Soluble	Leach	DI Leach			5.07 g	50 mL	240274	04/01/22 17:52	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		100			241583	04/05/22 22:36	L4QM	ELLE

Client Sample ID: SS03

Lab Sample ID: 890-2085-3
Matrix: Solid
Date Collected: 03/15/22 14:45
Date Received: 03/16/22 13:26

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	21824	03/22/22 16:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22110	03/22/22 20:51	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22213	03/23/22 14:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21990	03/21/22 09:28	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21834	03/17/22 16:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21858	03/18/22 17:58	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	240233	04/01/22 15:26	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		1			241096	04/05/22 15:37	L4QM	ELLE
Soluble	Leach	DI Leach			5.00 g	50 mL	238796	03/29/22 15:26	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		1			240174	03/31/22 20:42	W5UX	ELLE

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Client Sample ID: SS04

Date Collected: 03/15/22 14:50
Date Received: 03/16/22 13:26

Lab Sample ID: 890-2085-4
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			4.95 g	5 mL	21824	03/22/22 16:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22110	03/22/22 21:11	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22213	03/23/22 14:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21990	03/21/22 09:28	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	21834	03/17/22 16:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21858	03/18/22 18:19	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	240274	04/01/22 17:52	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		1			241583	04/05/22 23:09	L4QM	ELLE
Soluble	Leach	DI Leach			5.00 g	50 mL	238796	03/29/22 15:26	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		1			240174	03/31/22 20:50	W5UX	ELLE

Client Sample ID: SS05

Date Collected: 03/15/22 14:55
Date Received: 03/16/22 13:26

Lab Sample ID: 890-2085-5
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			4.98 g	5 mL	21824	03/22/22 16:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22110	03/22/22 21:32	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22213	03/23/22 14:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21990	03/21/22 09:28	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21834	03/17/22 16:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21858	03/18/22 18:40	AJ	XEN MID
Soluble	Leach	DI Leach			5.00 g	50 mL	240233	04/01/22 15:26	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		1			241096	04/05/22 15:26	L4QM	ELLE
Soluble	Leach	DI Leach			5.02 g	50 mL	238796	03/29/22 15:26	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		1			240174	03/31/22 20:58	W5UX	ELLE

Client Sample ID: SS06

Date Collected: 03/15/22 15:10
Date Received: 03/16/22 13:26

Lab Sample ID: 890-2085-6
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			5.03 g	5 mL	21824	03/22/22 16:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22110	03/22/22 21:52	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22213	03/23/22 14:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			21990	03/21/22 09:28	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	21834	03/17/22 16:29	DM	XEN MID
Total/NA	Analysis	8015B NM		1			21858	03/18/22 19:01	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	240274	04/01/22 17:52	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		1			241583	04/05/22 23:20	L4QM	ELLE
Soluble	Leach	DI Leach			5.07 g	50 mL	238796	03/29/22 15:26	L4QM	ELLE
Soluble	Analysis	EPA 300.0 R2.1		1			240174	03/31/22 21:06	W5UX	ELLE

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

Laboratory: Eurofins Lancaster Laboratories Env, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	1.01	11-30-22
A2LA	ISO/IEC 17025	0001.01	11-30-22
Alaska	State	PA00009	06-30-22
Alaska (UST)	State	17-027	02-28-23
Arizona	State	AZ0780	03-12-23
Arkansas DEQ	State	88-0660	08-10-22
California	State	2792	02-02-22 *
Colorado	State	PA00009	06-30-22
Connecticut	State	PH-0746	06-30-23
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-23
Delaware (DW)	State	N/A	01-31-23
Florida	NELAP	E87997	06-30-22
Georgia (DW)	State	C048	01-31-22 *
Hawaii	State	N/A	01-31-23
Illinois	NELAP	200027	01-31-23
Iowa	State	361	03-02-22 *
Kansas	NELAP	E-10151	10-31-22
Kentucky (DW)	State	KY90088	12-31-22
Kentucky (UST)	State	1.01	11-30-22
Kentucky (WW)	State	KY90088	01-01-23
Louisiana	NELAP	02055	06-30-22
Maine	State	2019012	03-12-23
Maryland	State	100	06-30-22
Massachusetts	State	M-PA009	06-30-22
Michigan	State	9930	01-31-23
Minnesota	NELAP	042-999-487	12-31-22
Missouri	State	450	01-31-25
Montana (DW)	State	0098	01-01-23
Montana (UST)	State	<cert No.>	02-01-23
Nebraska	State	NE-OS-32-17	01-31-23
New Hampshire	NELAP	2730	01-10-23
New Jersey	NELAP	PA011	06-30-22
New York	NELAP	10670	04-01-23
North Carolina (DW)	State	42705	07-31-22
North Carolina (WW/SW)	State	521	12-31-22
North Dakota	State	R-205	01-31-23
Oklahoma	NELAP	R-205	08-31-22
Oregon	NELAP	PA200001	09-11-22
PALA	Canada	1978	09-16-24
Pennsylvania	NELAP	36-00037	01-31-23
Rhode Island	State	LAO00338	12-30-22
South Carolina	State	89002	01-31-23
Tennessee	State	02838	01-31-22 *
Texas	NELAP	T104704194-21-40	08-31-22
Vermont	State	VT - 36037	10-28-22
Virginia	NELAP	460182	06-14-22
Washington	State	C457	04-12-22
West Virginia (DW)	State	9906 C	12-31-22
West Virginia DEP	State	055	04-30-22
Wyoming	State	8TMS-L	01-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wyoming (UST)	A2LA	1.01	11-30-22

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: 890-2085-1
Project/Site: Hudson Battery SDG: 31403720.000 Task 14.02

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
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	ELLE

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

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

Sample Summary

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2085-1
SDG: 31403720.000 Task 14.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2085-1	SS01	Solid	03/15/22 14:35	03/16/22 13:26	0.5
890-2085-2	SS02	Solid	03/15/22 14:40	03/16/22 13:26	0.5
890-2085-3	SS03	Solid	03/15/22 14:45	03/16/22 13:26	0.5
890-2085-4	SS04	Solid	03/15/22 14:50	03/16/22 13:26	0.5
890-2085-5	SS05	Solid	03/15/22 14:55	03/16/22 13:26	0.5
890-2085-6	SS06	Solid	03/15/22 15:10	03/16/22 13:26	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) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	WSP USA	Company Name:	WSP USA
Address:	3300 North A Street	Address:	3300 North A Street
City, State ZIP:	Midland, Texas 79705	City, State ZIP:	Midland, Texas 79705
Phone:	432 704 5178	Email:	Kalei.Jennings@wsp.com

Work Order Comments

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

Project Name:	Hudson Battery	Turn Around	
Project Number:	31403720.000 Task 14.02	Routine	☑
P.O. Number:	NAPP 2201142906	Rush:	
Sampler's Name:	Alexis Castro	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.4 / 1.2	Thermometer ID		
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:		

ANALYSIS REQUEST

Work Order Notes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SS01	S	03/15/22	14:35	0.5'	1	X	X	X	Discrete
SS02	S	03/15/22	14:40	0.5'	1	X	X	X	Discrete
SS03	S	03/15/22	14:45	0.5'	1	X	X	X	Discrete
SS04	S	03/15/22	14:50	0.5'	1	X	X	X	Discrete
SS05	S	03/15/22	14:55	0.5'	1	X	X	X	Discrete
SS06	S	03/15/22	15:10	0.5'	1	X	X	X	Discrete

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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		3/16/22 1:46	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Phone: 432-704-5440

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 880-4085.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Env, LLC		Accreditations Required (See note): NELAP - Louisiana, NELAP - Texas		Job #: 890-2085-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 3/28/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: Hudson Battery	Project #: 89000048			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/DI_LEACH (MOD) CHLORIDE	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SS01 (890-2085-1)	3/15/22	14:35 Mountain		Solid			X	1	
SS02 (890-2085-2)	3/15/22	14:40 Mountain		Solid			X	1	
SS03 (890-2085-3)	3/15/22	14:45 Mountain		Solid			X	1	
SS04 (890-2085-4)	3/15/22	14:50 Mountain		Solid			X	1	
SS05 (890-2085-5)	3/15/22	14:55 Mountain		Solid			X	1	
SS06 (890-2085-6)	3/15/22	15:10 Mountain		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time 3/25/22 1155	Company ECLE

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.8

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-2085-1
SDG Number: 31403720.000 Task 14.02

Login Number: 2085
List Number: 1
Creator: Olivas, Nathaniel

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-2085-1
SDG Number: 31403720.000 Task 14.02

Login Number: 2085
List Number: 3
Creator: Bryan, Debra A

List Source: Eurofins Lancaster Laboratories Env, LLC
List Creation: 03/25/22 01:47 PM

Question	Answer	Comment
The cooler's custody seal is 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 (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-2085-1
SDG Number: 31403720.000 Task 14.02

Login Number: 2085
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/17/22 02:02 PM

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	

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2137-1
Laboratory Sample Delivery Group: 31403720.0000 task 40.02
Client Project/Site: Hudson Battery

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
4/8/2022 10:08:04 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: WSP USA Inc.
Project/Site: Hudson Battery

Laboratory Job ID: 890-2137-1
SDG: 31403720.0000 task 40.02

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
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. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

Job ID: 890-2137-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2137-1

Comments
No additional comments.

Receipt
The samples were received on 3/24/2022 2:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4° C.

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-22440 and analytical batch 880-22425 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 continuing calibration verification (CCV) associated with batch 880-22425 recovered above the upper control limit for m-Xylene & p-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-22425/51).

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

GC Semi VOA
Method 8015B NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-22469 and analytical batch 880-22434 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28)

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

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

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

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

Client Sample Results

Client: WSP USA Inc. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

Client Sample ID: BH01
Lab Sample ID: 890-2137-1
Date Collected: 03/21/22 13:30 **Matrix: Solid**
Date Received: 03/24/22 14:35
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		03/28/22 08:36	03/29/22 14:16	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/28/22 08:36	03/29/22 14:16	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/28/22 08:36	03/29/22 14:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/28/22 08:36	03/29/22 14:16	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/28/22 08:36	03/29/22 14:16	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/28/22 08:36	03/29/22 14:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*03/28/22 08:36*	*03/29/22 14:16*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*03/28/22 08:36*	*03/29/22 14:16*	*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			03/29/22 16:50	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			03/29/22 10:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		03/28/22 10:57	03/28/22 17:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		03/28/22 10:57	03/28/22 17:39	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/28/22 10:57	03/28/22 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*03/28/22 10:57*	*03/28/22 17:39*	*1*
o-Terphenyl	*116*		*70 - 130*	*03/28/22 10:57*	*03/28/22 17:39*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1390**		25.0		mg/Kg			04/07/22 16:55	5

Client Sample ID: BH01A
Lab Sample ID: 890-2137-2
Date Collected: 03/21/22 13:35 **Matrix: Solid**
Date Received: 03/24/22 14:35
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/28/22 08:36	03/29/22 14:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/28/22 08:36	03/29/22 14:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/28/22 08:36	03/29/22 14:37	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		03/28/22 08:36	03/29/22 14:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/28/22 08:36	03/29/22 14:37	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		03/28/22 08:36	03/29/22 14:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*03/28/22 08:36*	*03/29/22 14:37*	*1*

Client Sample Results

Client: WSP USA Inc. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

Client Sample ID: BH01A
Lab Sample ID: 890-2137-2
Date Collected: 03/21/22 13:35
Matrix: Solid
Date Received: 03/24/22 14:35
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*03/28/22 08:36*	*03/29/22 14:37*	*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			03/29/22 16:50	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			03/29/22 10:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8	mg/Kg		03/28/22 10:57	03/28/22 18:00	1
Diesel Range Organics (Over C10-C28)	<49.8	U *1	49.8	mg/Kg		03/28/22 10:57	03/28/22 18:00	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/28/22 10:57	03/28/22 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*03/28/22 10:57*	*03/28/22 18:00*	*1*
o-Terphenyl	*114*		*70 - 130*	*03/28/22 10:57*	*03/28/22 18:00*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1170**		25.0	mg/Kg			04/07/22 17:01	5

Client Sample ID: BH02
Lab Sample ID: 890-2137-3
Date Collected: 03/21/22 13:40
Matrix: Solid
Date Received: 03/24/22 14:35
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		03/28/22 08:36	03/29/22 14:57	1
Toluene	<0.00202	U	0.00202	mg/Kg		03/28/22 08:36	03/29/22 14:57	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		03/28/22 08:36	03/29/22 14:57	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		03/28/22 08:36	03/29/22 14:57	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		03/28/22 08:36	03/29/22 14:57	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		03/28/22 08:36	03/29/22 14:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*03/28/22 08:36*	*03/29/22 14:57*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*03/28/22 08:36*	*03/29/22 14:57*	*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			03/29/22 16:50	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			03/29/22 10:55	1

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Client Sample Results

Client: WSP USA Inc. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

Client Sample ID: BH02
Lab Sample ID: 890-2137-3
Date Collected: 03/21/22 13:40 **Matrix: Solid**
Date Received: 03/24/22 14:35
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		03/28/22 10:57	03/28/22 18:21	1
Diesel Range Organics (Over C10-C28)	<49.8	U *1	49.8		mg/Kg		03/28/22 10:57	03/28/22 18:21	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		03/28/22 10:57	03/28/22 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*03/28/22 10:57*	*03/28/22 18:21*	*1*
o-Terphenyl	*149*	*S1+*	*70 - 130*	*03/28/22 10:57*	*03/28/22 18:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**123**		5.04		mg/Kg			04/07/22 17:18	1

Client Sample ID: BH02A
Lab Sample ID: 890-2137-4
Date Collected: 03/21/22 13:45 **Matrix: Solid**
Date Received: 03/24/22 14:35
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		03/28/22 08:36	03/29/22 15:18	1
Toluene	<0.00202	U	0.00202		mg/Kg		03/28/22 08:36	03/29/22 15:18	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		03/28/22 08:36	03/29/22 15:18	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		03/28/22 08:36	03/29/22 15:18	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		03/28/22 08:36	03/29/22 15:18	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		03/28/22 08:36	03/29/22 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*03/28/22 08:36*	*03/29/22 15:18*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*03/28/22 08:36*	*03/29/22 15:18*	*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			03/29/22 16:50	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			03/29/22 10:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		03/28/22 10:57	03/28/22 18:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		03/28/22 10:57	03/28/22 18:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/28/22 10:57	03/28/22 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*03/28/22 10:57*	*03/28/22 18:42*	*1*
o-Terphenyl	*117*		*70 - 130*	*03/28/22 10:57*	*03/28/22 18:42*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2137-1
SDG: 31403720.0000 task 40.02

Client Sample ID: BH02A
Date Collected: 03/21/22 13:45
Date Received: 03/24/22 14:35
Sample Depth: 2

Lab Sample ID: 890-2137-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.3		4.99		mg/Kg			04/07/22 17:24	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2137-1
SDG: 31403720.0000 task 40.02

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2137-1	BH01	91	101
890-2137-2	BH01A	113	103
890-2137-3	BH02	99	97
890-2137-4	BH02A	89	102
890-2139-A-1-A MS	Matrix Spike	96	105
890-2139-A-1-B MSD	Matrix Spike Duplicate	78	102
LCS 880-22440/1-A	Lab Control Sample	105	104
LCSD 880-22440/2-A	Lab Control Sample Dup	118	100
MB 880-22418/5-A	Method Blank	98	101
MB 880-22440/5-A	Method Blank	98	98

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)
890-2137-1	BH01	105	116
890-2137-2	BH01A	102	114
890-2137-3	BH02	133 S1+	149 S1+
890-2137-4	BH02A	106	117
890-2139-A-1-E MS	Matrix Spike	120	134 S1+
890-2139-A-1-F MSD	Matrix Spike Duplicate	108	116

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO2	OTPH2
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
LCS 880-22469/2-A	Lab Control Sample	109	120
LCSD 880-22469/3-A	Lab Control Sample Dup	94	104
MB 880-22469/1-A	Method Blank	103	116

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2137-1
SDG: 31403720.0000 task 40.02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-22418/5-A
Matrix: Solid
Analysis Batch: 22425

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22418

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/28/22 09:00	03/28/22 18:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/28/22 09:00	03/28/22 18:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/28/22 09:00	03/28/22 18:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/28/22 09:00	03/28/22 18:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/28/22 09:00	03/28/22 18:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/28/22 09:00	03/28/22 18:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*03/28/22 09:00*	*03/28/22 18:08*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*03/28/22 09:00*	*03/28/22 18:08*	*1*

Lab Sample ID: MB 880-22440/5-A
Matrix: Solid
Analysis Batch: 22425

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22440

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/28/22 08:36	03/29/22 05:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/28/22 08:36	03/29/22 05:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/28/22 08:36	03/29/22 05:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/28/22 08:36	03/29/22 05:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/28/22 08:36	03/29/22 05:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/28/22 08:36	03/29/22 05:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*03/28/22 08:36*	*03/29/22 05:43*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/28/22 08:36*	*03/29/22 05:43*	*1*

Lab Sample ID: LCS 880-22440/1-A
Matrix: Solid
Analysis Batch: 22425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22440

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1072		mg/Kg		107	70 - 130		
Toluene			0.100	0.1006		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.1029		mg/Kg		103	70 - 130		
m-Xylene & p-Xylene			0.200	0.2474		mg/Kg		124	70 - 130		
o-Xylene			0.100	0.1219		mg/Kg		122	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-22440/2-A
Matrix: Solid
Analysis Batch: 22425

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 22440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08758		mg/Kg		88	70 - 130	20	35

QC Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2137-1
SDG: 31403720.0000 task 40.02

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

Lab Sample ID: LCSD 880-22440/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 22425 — **Prep Batch: 22440**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09000		mg/Kg		90	70 - 130	11	35
Ethylbenzene			0.100	0.09433		mg/Kg		94	70 - 130	9	35
m-Xylene & p-Xylene			0.200	0.2330		mg/Kg		117	70 - 130	6	35
o-Xylene			0.100	0.1183		mg/Kg		118	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2139-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 22425 — **Prep Batch: 22440**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U F1	0.100	0.01667	F1	mg/Kg		17	70 - 130
Toluene	<0.00198	U F1	0.100	0.01424	F1	mg/Kg		14	70 - 130
Ethylbenzene	<0.00198	U F2 F1	0.100	0.009383	F1	mg/Kg		9	70 - 130
m-Xylene & p-Xylene	<0.00397	U F1	0.200	0.02545	F1	mg/Kg		13	70 - 130
o-Xylene	<0.00198	U F1	0.100	0.01679	F1	mg/Kg		17	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-2139-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 22425 — **Prep Batch: 22440**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U F1	0.0996	0.01395	F1	mg/Kg		14	70 - 130	18	35
Toluene	<0.00198	U F1	0.0996	0.01110	F1	mg/Kg		11	70 - 130	25	35
Ethylbenzene	<0.00198	U F2 F1	0.0996	0.006320	F2 F1	mg/Kg		6	70 - 130	39	35
m-Xylene & p-Xylene	<0.00397	U F1	0.199	0.01959	F1	mg/Kg		10	70 - 130	26	35
o-Xylene	<0.00198	U F1	0.0996	0.01230	F1	mg/Kg		12	70 - 130	31	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

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

Lab Sample ID: MB 880-22469/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 22434 — **Prep Batch: 22469**

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		03/28/22 10:57	03/28/22 11:23	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2137-1
SDG: 31403720.0000 task 40.02

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

Lab Sample ID: MB 880-22469/1-A
Matrix: Solid
Analysis Batch: 22434

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22469

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		03/28/22 10:57	03/28/22 11:23	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/28/22 10:57	03/28/22 11:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*03/28/22 10:57*	*03/28/22 11:23*	*1*
o-Terphenyl	*116*		*70 - 130*	*03/28/22 10:57*	*03/28/22 11:23*	*1*

Lab Sample ID: LCS 880-22469/2-A
Matrix: Solid
Analysis Batch: 22434

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22469

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	950.2		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	975.9		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*120*		*70 - 130*

Lab Sample ID: LCSD 880-22469/3-A
Matrix: Solid
Analysis Batch: 22434

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 22469

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	749.9	*1	mg/Kg		75	70 - 130	24	20
Diesel Range Organics (Over C10-C28)			1000	794.2	*1	mg/Kg		79	70 - 130	21	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 890-2139-A-1-E MS
Matrix: Solid
Analysis Batch: 22434

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 22469

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 *1	998	995.7		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U *1	998	844.0		mg/Kg		80	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*120*		*70 - 130*
o-Terphenyl	*134*	*S1+*	*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: Hudson Battery

Job ID: 890-2137-1
SDG: 31403720.0000 task 40.02

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

Lab Sample ID: 890-2139-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 22434 — **Prep Batch: 22469**

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 *1	997	887.0		mg/Kg		87	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	<49.8	U *1	997	742.4		mg/Kg		70	70 - 130	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*116*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-22993/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 23129

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/07/22 13:12	1

Lab Sample ID: LCS 880-22993/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 23129

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	253.6		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-22993/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 23129

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	254.1		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 890-2137-2 MS — **Client Sample ID: BH01A**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 23129

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1170		1250	2445		mg/Kg		102	90 - 110		

Lab Sample ID: 890-2137-2 MSD — **Client Sample ID: BH01A**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 23129

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1170		1250	2500		mg/Kg		107	90 - 110	2	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

GC VOA

Prep Batch: 22418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-22418/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 22425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2137-1	BH01	Total/NA	Solid	8021B	22440
890-2137-2	BH01A	Total/NA	Solid	8021B	22440
890-2137-3	BH02	Total/NA	Solid	8021B	22440
890-2137-4	BH02A	Total/NA	Solid	8021B	22440
MB 880-22418/5-A	Method Blank	Total/NA	Solid	8021B	22418
MB 880-22440/5-A	Method Blank	Total/NA	Solid	8021B	22440
LCS 880-22440/1-A	Lab Control Sample	Total/NA	Solid	8021B	22440
LCSD 880-22440/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	22440
890-2139-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	22440
890-2139-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	22440

Prep Batch: 22440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2137-1	BH01	Total/NA	Solid	5035	
890-2137-2	BH01A	Total/NA	Solid	5035	
890-2137-3	BH02	Total/NA	Solid	5035	
890-2137-4	BH02A	Total/NA	Solid	5035	
MB 880-22440/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-22440/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-22440/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2139-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
890-2139-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 22589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2137-1	BH01	Total/NA	Solid	Total BTEX	
890-2137-2	BH01A	Total/NA	Solid	Total BTEX	
890-2137-3	BH02	Total/NA	Solid	Total BTEX	
890-2137-4	BH02A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 22434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2137-1	BH01	Total/NA	Solid	8015B NM	22469
890-2137-2	BH01A	Total/NA	Solid	8015B NM	22469
890-2137-3	BH02	Total/NA	Solid	8015B NM	22469
890-2137-4	BH02A	Total/NA	Solid	8015B NM	22469
MB 880-22469/1-A	Method Blank	Total/NA	Solid	8015B NM	22469
LCS 880-22469/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	22469
LCSD 880-22469/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	22469
890-2139-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	22469
890-2139-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	22469

Prep Batch: 22469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2137-1	BH01	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

GC Semi VOA (Continued)

Prep Batch: 22469 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2137-2	BH01A	Total/NA	Solid	8015NM Prep	
890-2137-3	BH02	Total/NA	Solid	8015NM Prep	
890-2137-4	BH02A	Total/NA	Solid	8015NM Prep	
MB 880-22469/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-22469/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-22469/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2139-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2139-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 22542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2137-1	BH01	Total/NA	Solid	8015 NM	
890-2137-2	BH01A	Total/NA	Solid	8015 NM	
890-2137-3	BH02	Total/NA	Solid	8015 NM	
890-2137-4	BH02A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 22993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2137-1	BH01	Soluble	Solid	DI Leach	
890-2137-2	BH01A	Soluble	Solid	DI Leach	
890-2137-3	BH02	Soluble	Solid	DI Leach	
890-2137-4	BH02A	Soluble	Solid	DI Leach	
MB 880-22993/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-22993/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-22993/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2137-2 MS	BH01A	Soluble	Solid	DI Leach	
890-2137-2 MSD	BH01A	Soluble	Solid	DI Leach	

Analysis Batch: 23129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2137-1	BH01	Soluble	Solid	300.0	22993
890-2137-2	BH01A	Soluble	Solid	300.0	22993
890-2137-3	BH02	Soluble	Solid	300.0	22993
890-2137-4	BH02A	Soluble	Solid	300.0	22993
MB 880-22993/1-A	Method Blank	Soluble	Solid	300.0	22993
LCS 880-22993/2-A	Lab Control Sample	Soluble	Solid	300.0	22993
LCSD 880-22993/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	22993
890-2137-2 MS	BH01A	Soluble	Solid	300.0	22993
890-2137-2 MSD	BH01A	Soluble	Solid	300.0	22993

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

Client Sample ID: BH01 — Lab Sample ID: 890-2137-1

Date Collected: 03/21/22 13:30 **Matrix: Solid**
Date Received: 03/24/22 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	22440	03/28/22 08:36	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22425	03/29/22 14:16	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22589	03/29/22 16:50	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			22542	03/29/22 10:55	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	22469	03/28/22 10:57	AM	XEN MID
Total/NA	Analysis	8015B NM		1			22434	03/28/22 17:39	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	22993	04/05/22 09:10	CH	XEN MID
Soluble	Analysis	300.0		5			23129	04/07/22 16:55	CH	XEN MID

Client Sample ID: BH01A — Lab Sample ID: 890-2137-2

Date Collected: 03/21/22 13:35 **Matrix: Solid**
Date Received: 03/24/22 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	22440	03/28/22 08:36	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22425	03/29/22 14:37	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22589	03/29/22 16:50	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			22542	03/29/22 10:55	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	22469	03/28/22 10:57	AM	XEN MID
Total/NA	Analysis	8015B NM		1			22434	03/28/22 18:00	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	22993	04/05/22 09:10	CH	XEN MID
Soluble	Analysis	300.0		5			23129	04/07/22 17:01	CH	XEN MID

Client Sample ID: BH02 — Lab Sample ID: 890-2137-3

Date Collected: 03/21/22 13:40 **Matrix: Solid**
Date Received: 03/24/22 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	22440	03/28/22 08:36	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22425	03/29/22 14:57	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22589	03/29/22 16:50	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			22542	03/29/22 10:55	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	22469	03/28/22 10:57	AM	XEN MID
Total/NA	Analysis	8015B NM		1			22434	03/28/22 18:21	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	22993	04/05/22 09:10	CH	XEN MID
Soluble	Analysis	300.0		1			23129	04/07/22 17:18	CH	XEN MID

Client Sample ID: BH02A — Lab Sample ID: 890-2137-4

Date Collected: 03/21/22 13:45 **Matrix: Solid**
Date Received: 03/24/22 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	22440	03/28/22 08:36	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	22425	03/29/22 15:18	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22589	03/29/22 16:50	AJ	XEN MID

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

Client Sample ID: BH02A
Date Collected: 03/21/22 13:45
Date Received: 03/24/22 14:35

Lab Sample ID: 890-2137-4
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			22542	03/29/22 10:55	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	22469	03/28/22 10:57	AM	XEN MID
Total/NA	Analysis	8015B NM		1			22434	03/28/22 18:42	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	22993	04/05/22 09:10	CH	XEN MID
Soluble	Analysis	300.0		1			23129	04/07/22 17:24	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

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: 890-2137-1
Project/Site: Hudson Battery SDG: 31403720.0000 task 40.02

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: Hudson Battery

Job ID: 890-2137-1
SDG: 31403720.0000 task 40.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2137-1	BH01	Solid	03/21/22 13:30	03/24/22 14:35	1
890-2137-2	BH01A	Solid	03/21/22 13:35	03/24/22 14:35	2
890-2137-3	BH02	Solid	03/21/22 13:40	03/24/22 14:35	1
890-2137-4	BH02A	Solid	03/21/22 13:45	03/24/22 14:35	2

Chain of Custody

Work Order No: _____

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) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	WSP USA	Company Name:	WSP USA
Address:	3300 North A Street	Address:	33000 North A Street
City, State ZIP:	Midland, Texas 79705	City, State ZIP:	Midland, Texas 79705
Phone:	432 704 5178	Email:	Kalei.Jennings@wsp.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐

State of Project:

Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Hudson Battery	Turn Around	
Project Number:	31403720.000 Task 40.02	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Mercy Rotich.	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes / No	Wet Ice:	Yes / No	
Temperature (°C):	1.6/1.4	Thermometer ID	TNM-007	
Received Intact:	Yes / No			
Cooler Custody Seals:	Yes / No / N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes / No / N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
BHO1	S	03/21/22	13:30	1'	1	X	X	X	Discrete
BHO1A	S	03/21/22	13:35	2'	1	X	X	X	Discrete
BHO2	S	03/21/22	13:40	1'	1	X	X	X	Discrete
BHO2A	S	03/21/22	13:45	2'	1	X	X	X	Discrete

ANALYSIS REQUEST

890-2137 Chain of Custody

Work Order Notes

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

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			3.24.22 1435			
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-687 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Louisiana, NELAP - Texas		Job #: 890-2137-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 3/30/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Hudson Battery	Project #: 89000048			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/6036FP_Calc BTEX	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
BH01 (890-2137-1)	3/21/22	13 30 Mountain		Solid			X	X	X	X	X	1	
BH01A (890-2137-2)	3/21/22	13 35 Mountain		Solid			X	X	X	X	X	1	
BH02 (890-2137-3)	3/21/22	13.40 Mountain		Solid			X	X	X	X	X	1	
BH02A (890-2137-4)	3/21/22	13 45 Mountain		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by: 3.25.22			Received by:	Date/Time: 3/29/22	
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-2137-1
SDG Number: 31403720.0000 task 40.02

Login Number: 2137
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-2137-1
SDG Number: 31403720.0000 task 40.02

Login Number: 2137
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 03/28/22 08:20 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 880-16309-1
Laboratory Sample Delivery Group: 03D2057001
Client Project/Site: Hudson Battery

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
6/28/2022 7:28:13 PM

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

Client: Ensolum
Project/Site: Hudson Battery

Laboratory Job ID: 880-16309-1
SDG: 03D2057001

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 880-16309-1
Project/Site: Hudson Battery SDG: 03D2057001

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: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

Job ID: 880-16309-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-16309-1

Receipt
The samples were received on 6/27/2022 8:43 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: (MB 880-28419/1-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC
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: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

Client Sample ID: FS01

Lab Sample ID: 880-16309-1
Matrix: Solid
Date Collected: 06/24/22 08:45
Date Received: 06/27/22 08:43
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		06/27/22 09:16	06/27/22 13:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/27/22 09:16	06/27/22 13:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/27/22 09:16	06/27/22 13:45	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/27/22 09:16	06/27/22 13:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/27/22 09:16	06/27/22 13:45	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/27/22 09:16	06/27/22 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*06/27/22 09:16*	*06/27/22 13:45*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*06/27/22 09:16*	*06/27/22 13:45*	*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			06/27/22 16:11	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			06/28/22 10:27	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	<49.8	U	49.8		mg/Kg		06/27/22 09:00	06/27/22 17:42	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/27/22 09:00	06/27/22 17:42	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/27/22 09:00	06/27/22 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*06/27/22 09:00*	*06/27/22 17:42*	*1*
o-Terphenyl	*114*		*70 - 130*	*06/27/22 09:00*	*06/27/22 17:42*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29.8**		4.95		mg/Kg			06/27/22 23:27	1

Client Sample ID: FS02

Lab Sample ID: 880-16309-2
Matrix: Solid
Date Collected: 06/24/22 09:05
Date Received: 06/27/22 08:43
Sample Depth: 0.75

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/27/22 09:16	06/27/22 14:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/27/22 09:16	06/27/22 14:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/27/22 09:16	06/27/22 14:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/27/22 09:16	06/27/22 14:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/27/22 09:16	06/27/22 14:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/27/22 09:16	06/27/22 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*06/27/22 09:16*	*06/27/22 14:05*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

Client Sample ID: FS02

Lab Sample ID: 880-16309-2
Matrix: Solid
Date Collected: 06/24/22 09:05
Date Received: 06/27/22 08:43
Sample Depth: 0.75

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*06/27/22 09:16*	*06/27/22 14:05*	*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			06/27/22 16:11	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			06/28/22 10:27	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		06/27/22 09:00	06/27/22 18:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/27/22 09:00	06/27/22 18:04	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/27/22 09:00	06/27/22 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*06/27/22 09:00*	*06/27/22 18:04*	*1*
o-Terphenyl	*111*		*70 - 130*	*06/27/22 09:00*	*06/27/22 18:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21.4**		4.99	mg/Kg			06/27/22 23:55	1

Client Sample ID: SW01

Lab Sample ID: 880-16309-3
Matrix: Solid
Date Collected: 06/24/22 09:25
Date Received: 06/27/22 08:43
Sample Depth: 0-0.25

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/27/22 09:16	06/27/22 15:28	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/27/22 09:16	06/27/22 15:28	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/27/22 09:16	06/27/22 15:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/27/22 09:16	06/27/22 15:28	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/27/22 09:16	06/27/22 15:28	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/27/22 09:16	06/27/22 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*06/27/22 09:16*	*06/27/22 15:28*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*06/27/22 09:16*	*06/27/22 15:28*	*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			06/27/22 16:11	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			06/28/22 10:27	1

Eurofins Midland

Client Sample Results

Client: Ensolum
Project/Site: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

Client Sample ID: SW01

Date Collected: 06/24/22 09:25
Date Received: 06/27/22 08:43
Sample Depth: 0-0.25

Lab Sample ID: 880-16309-3

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		06/27/22 09:00	06/27/22 18:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/27/22 09:00	06/27/22 18:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/27/22 09:00	06/27/22 18:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*06/27/22 09:00*	*06/27/22 18:26*	*1*
o-Terphenyl	*128*		*70 - 130*	*06/27/22 09:00*	*06/27/22 18:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**49.5**		4.95		mg/Kg			06/28/22 00:04	1

Surrogate Summary

Client: Ensolum
Project/Site: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

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)
880-16296-A-7-C MS	Matrix Spike	111	98
880-16296-A-7-D MSD	Matrix Spike Duplicate	116	100
880-16309-1	FS01	110	90
880-16309-2	FS02	114	93
880-16309-3	SW01	110	94
LCS 880-28399/1-A	Lab Control Sample	111	98
LCSD 880-28399/2-A	Lab Control Sample Dup	111	98
MB 880-28399/5-A	Method Blank	105	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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-16295-A-1-D MS	Matrix Spike	84	80
880-16295-A-1-E MSD	Matrix Spike Duplicate	90	84
880-16309-1	FS01	108	114
880-16309-2	FS02	106	111
880-16309-3	SW01	125	128
LCS 880-28419/2-A	Lab Control Sample	95	98
LCSD 880-28419/3-A	Lab Control Sample Dup	89	91
MB 880-28419/1-A	Method Blank	129	140 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28399/5-A
Matrix: Solid
Analysis Batch: 28415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28399

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/25/22 18:16	06/27/22 10:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/25/22 18:16	06/27/22 10:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/25/22 18:16	06/27/22 10:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/25/22 18:16	06/27/22 10:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/25/22 18:16	06/27/22 10:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/25/22 18:16	06/27/22 10:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*06/25/22 18:16*	*06/27/22 10:39*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*06/25/22 18:16*	*06/27/22 10:39*	*1*

Lab Sample ID: LCS 880-28399/1-A
Matrix: Solid
Analysis Batch: 28415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28399

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09940		mg/Kg		99	70 - 130		
Toluene			0.100	0.09941		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.1040		mg/Kg		104	70 - 130		
m-Xylene & p-Xylene			0.200	0.2139		mg/Kg		107	70 - 130		
o-Xylene			0.100	0.1062		mg/Kg		106	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-28399/2-A
Matrix: Solid
Analysis Batch: 28415

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28399

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1047		mg/Kg		105	70 - 130	5	35
Toluene			0.100	0.1036		mg/Kg		104	70 - 130	4	35
Ethylbenzene			0.100	0.1083		mg/Kg		108	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2224		mg/Kg		111	70 - 130	4	35
o-Xylene			0.100	0.1101		mg/Kg		110	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

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

Lab Sample ID: MB 880-28419/1-A
Matrix: Solid
Analysis Batch: 28407

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28419

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		06/27/22 08:29	06/27/22 11:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/27/22 08:29	06/27/22 11:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/27/22 08:29	06/27/22 11:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*06/27/22 08:29*	*06/27/22 11:37*	*1*
o-Terphenyl	*140*	*S1+*	*70 - 130*	*06/27/22 08:29*	*06/27/22 11:37*	*1*

Lab Sample ID: LCS 880-28419/2-A
Matrix: Solid
Analysis Batch: 28407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28419

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1036		mg/Kg		104	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	829.9		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*98*		*70 - 130*

Lab Sample ID: LCSD 880-28419/3-A
Matrix: Solid
Analysis Batch: 28407

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 28419

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1104		mg/Kg		110	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	776.5		mg/Kg		78	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*89*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28435/1-A
Matrix: Solid
Analysis Batch: 28536

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			06/27/22 23:00	1

QC Sample Results

Client: Ensolum
Project/Site: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-28435/2-A
Matrix: Solid
Analysis Batch: 28536

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.9		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-28435/3-A
Matrix: Solid
Analysis Batch: 28536

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	258.5		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-16309-1 MS
Matrix: Solid
Analysis Batch: 28536

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	29.8		248	273.3		mg/Kg		98	90 - 110		

Lab Sample ID: 880-16309-1 MSD
Matrix: Solid
Analysis Batch: 28536

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	29.8		248	272.6		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

GC VOA

Prep Batch: 28399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16309-1	FS01	Total/NA	Solid	5035	
880-16309-2	FS02	Total/NA	Solid	5035	
880-16309-3	SW01	Total/NA	Solid	5035	
MB 880-28399/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28399/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28399/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 28415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16309-1	FS01	Total/NA	Solid	8021B	28399
880-16309-2	FS02	Total/NA	Solid	8021B	28399
880-16309-3	SW01	Total/NA	Solid	8021B	28399
MB 880-28399/5-A	Method Blank	Total/NA	Solid	8021B	28399
LCS 880-28399/1-A	Lab Control Sample	Total/NA	Solid	8021B	28399
LCSD 880-28399/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28399

Analysis Batch: 28493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16309-1	FS01	Total/NA	Solid	Total BTEX	
880-16309-2	FS02	Total/NA	Solid	Total BTEX	
880-16309-3	SW01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 28407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16309-1	FS01	Total/NA	Solid	8015B NM	28419
880-16309-2	FS02	Total/NA	Solid	8015B NM	28419
880-16309-3	SW01	Total/NA	Solid	8015B NM	28419
MB 880-28419/1-A	Method Blank	Total/NA	Solid	8015B NM	28419
LCS 880-28419/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28419
LCSD 880-28419/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28419

Prep Batch: 28419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16309-1	FS01	Total/NA	Solid	8015NM Prep	
880-16309-2	FS02	Total/NA	Solid	8015NM Prep	
880-16309-3	SW01	Total/NA	Solid	8015NM Prep	
MB 880-28419/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28419/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28419/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 28516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16309-1	FS01	Total/NA	Solid	8015 NM	
880-16309-2	FS02	Total/NA	Solid	8015 NM	
880-16309-3	SW01	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

HPLC/IC

Leach Batch: 28435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16309-1	FS01	Soluble	Solid	DI Leach	
880-16309-2	FS02	Soluble	Solid	DI Leach	
880-16309-3	SW01	Soluble	Solid	DI Leach	
MB 880-28435/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28435/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28435/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-16309-1 MS	FS01	Soluble	Solid	DI Leach	
880-16309-1 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 28536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-16309-1	FS01	Soluble	Solid	300.0	28435
880-16309-2	FS02	Soluble	Solid	300.0	28435
880-16309-3	SW01	Soluble	Solid	300.0	28435
MB 880-28435/1-A	Method Blank	Soluble	Solid	300.0	28435
LCS 880-28435/2-A	Lab Control Sample	Soluble	Solid	300.0	28435
LCSD 880-28435/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28435
880-16309-1 MS	FS01	Soluble	Solid	300.0	28435
880-16309-1 MSD	FS01	Soluble	Solid	300.0	28435

Lab Chronicle

Client: Ensolum
Project/Site: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

Client Sample ID: FS01

Lab Sample ID: 880-16309-1
Matrix: Solid
Date Collected: 06/24/22 08:45
Date Received: 06/27/22 08:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28399	06/27/22 09:16	EL	XEN MID
Total/NA	Analysis	8021B		1	28415	06/27/22 13:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28493	06/27/22 16:11	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28516	06/28/22 10:27	SM	XEN MID
Total/NA	Prep	8015NM Prep			28419	06/27/22 09:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28407	06/27/22 17:42	SM	XEN MID
Soluble	Leach	DI Leach			28435	06/27/22 09:56	SC	XEN MID
Soluble	Analysis	300.0		1	28536	06/27/22 23:27	SC	XEN MID

Client Sample ID: FS02

Lab Sample ID: 880-16309-2
Matrix: Solid
Date Collected: 06/24/22 09:05
Date Received: 06/27/22 08:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28399	06/27/22 09:16	EL	XEN MID
Total/NA	Analysis	8021B		1	28415	06/27/22 14:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28493	06/27/22 16:11	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28516	06/28/22 10:27	SM	XEN MID
Total/NA	Prep	8015NM Prep			28419	06/27/22 09:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28407	06/27/22 18:04	SM	XEN MID
Soluble	Leach	DI Leach			28435	06/27/22 09:56	SC	XEN MID
Soluble	Analysis	300.0		1	28536	06/27/22 23:55	SC	XEN MID

Client Sample ID: SW01

Lab Sample ID: 880-16309-3
Matrix: Solid
Date Collected: 06/24/22 09:25
Date Received: 06/27/22 08:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			28399	06/27/22 09:16	EL	XEN MID
Total/NA	Analysis	8021B		1	28415	06/27/22 15:28	MR	XEN MID
Total/NA	Analysis	Total BTEX		1	28493	06/27/22 16:11	SM	XEN MID
Total/NA	Analysis	8015 NM		1	28516	06/28/22 10:27	SM	XEN MID
Total/NA	Prep	8015NM Prep			28419	06/27/22 09:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1	28407	06/27/22 18:26	SM	XEN MID
Soluble	Leach	DI Leach			28435	06/27/22 09:56	SC	XEN MID
Soluble	Analysis	300.0		1	28536	06/28/22 00:04	SC	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: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

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: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

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: Hudson Battery

Job ID: 880-16309-1
SDG: 03D2057001

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-16309-1	FS01	Solid	06/24/22 08:45	06/27/22 08:43	2.5'
880-16309-2	FS02	Solid	06/24/22 09:05	06/27/22 08:43	0.75
880-16309-3	SW01	Solid	06/24/22 09:25	06/27/22 08:43	0-0.25

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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

880-16309 Chain of Custody

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.	HUDSON BATTERY	Turn Around	☐ Routine ☒ Rush
Project Number:	03D2057001	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

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX 8021	TPH 8015	CHLORIDES 300
FS01	SL	6-24-22	0845	2.5'		1		X	X	X
FS02	↓	↓	0905	0.75		↓		↓	↓	↓
SW01	↓	↓	0925	0-2.5		↓		↓	↓	↓

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

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		6/27/22	2		
3		8:43	4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 880-16309-1
SDG Number: 03D2057001

Login Number: 16309
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	

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	
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		

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
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: 1/18/2022

L48 Spill Volume Estimate Form

NAPP2201142906

Name & Number:	Hudson Battery Water Tank
Asset Area:	Maljamar
Release Discovery Date & Time:	1/3/2022 8:00
Release Type:	Produced Water
Provide any known details about the event:	Hudson Battery Water Tank

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.)
Rectangle A	17.0	15.0	13.30	10.50%	50.307	5.282
Rectangle B					0.000	0.000
Rectangle C					0.000	0.000
Rectangle D					0.000	0.000
Rectangle E					0.000	0.000
Rectangle F					0.000	0.000
Rectangle G					0.000	0.000
Rectangle H					0.000	0.000
Rectangle I					0.000	0.000
					Total Volume Release:	5.282

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 73145

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 73145
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	1/18/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2201142906
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 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2201142906
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: Jason Thomas Title: HSE Manager

Signature: Jason Thomas Date: 07/05/2022

email: Jason.Thomas@mavresources.com Telephone: 903-291-6513

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2201142906
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: Jason Thomas Title: HSE Manager

Signature: Jason Thomas Date: 07/05/2022

email: Jason.Thomas@mavresources.com Telephone: 903-291-6513

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: 07/13/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

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

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
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 123418

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 123418
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved. Please note that the depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old. However, closure can be approved as soils were remediated to the most stringent criteria.	7/13/2022