

Spill Volume(Bbls) Calculator*Inputs in blue, Outputs in red*

Length(Ft)	Width(Ft)	Depth(In)
<u>120.000</u>	<u>75.000</u>	<u>1.000</u>
Cubic Feet Impacted		<u>750.000</u>
Barrels		<u>133.57</u>
Soil Type		Clay/Sand
Bbls Assuming 100% Saturation		<u>20.04</u>
Saturation	Fluid present with shovel/backhoe	
Estimated Barrels Released		20.10000

Instructions

1. Input spill measurements below. Length and width need to be input in feet and depth in inches.
2. Select a soil type from the drop down menu.
3. Select a saturation level from the drop down menu.

(For data gathering instructions see appendix tab)

Measurements

Length (ft)	120
Width (ft)	75
Depth (in)	1.000









4518 W. Pierce St.

Carlsbad NM, 88220

October 30, 2024

Spur Energy Partners LLC
2407 Pecos Avenue
Artesia NM, 88210

Attn: New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico, NM 87505

RE: **Release Investigation, and Closure Report**
Muskegon 16 State #001 Battery
Unit N, Section 16, Township 17 South, Range 29 East
32.82888 °, -104.08209°
Eddy County, New Mexico
NMOCD No. nAPP2329731764
Terracon Project No. KH237044

To Whom It May Concern:

Terracon Consultants, Inc. (Terracon) is submitting this Release Investigation and Closure Report on behalf of Spur Energy Partners LLC for the above-referenced site. Prepared in line with New Mexico Oil Conservation Division (NMOCD) regulations, this report describes the clean-up actions undertaken in response to a release of produced water. The release occurred due to the corrosion of a pump, which caused a release into the unlined containment and onto the location pad. Detailed assessment and remedial actions by Terracon are outlined in the following sections.

Action Items

Completed Actions

- 1) Conducted an initial site assessment and a series of sampling events.
- 2) Soil samples collected from the excavation were submitted to an approved laboratory for analysis to determine levels of impact vertically and horizontally.
- 3) Excavation of the inferred release area was completed with the intent to remove impacted soil as determined by the Closure Criteria set by NMOCD.
- 4) Soil stockpiles on site were placed on plastic and bermed around the edges to reduce loss.
- 5) Confirmation samples were collected every 200 square feet.
- 6) Remedial activities were terminated when a confirmation sample was collected below the NMOCD RALs for Oil and Gas impacted soils.
- 7) Maps and associated data for approval have been provided.
- 8) Conditions needed for approval of closure have been met.

Explore with us

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9) Excavated areas have been backfilled and brought to surrounding grade.

Anticipated Actions

1) Approval by the NMOCD.

Site Information

The Notice of the Release was provided to the NMOCD District 2 Artesia Office by Katherine Purvis on October 24, 2023, and subsequently approved on October 24, 2023 (NMOCD Reference ID: nAPP2329731764). The site is located within Unit N, Section 16, Township 17 South, Range 29 East, approximately 5.75 miles west of Loco Hills, New Mexico. A Topographical Map and Site Location Map are included as Exhibit 1 and Exhibit 2, respectively.

Regulatory Criteria

A review of data from the New Mexico Office of the State Engineer (NMOSE) website identified a water well (RA13421) located 200 feet southwest of the site as indicated in the NMOSE Pod Location Map (Appendix A, Exhibit 3) and boring log (Appendix B, Figure 1). This exploratory boring was completed to a depth of 101 feet below ground surface (bgs) in 2024, with depth to water of greater than 100 feet bgs. A review of the U.S. Fish and Wildlife Service, National Wetlands Inventory website indicates that the wetland area is located approximately 0.66 miles east of the site as indicated in the Designated Wetland Area Map (Appendix A, Exhibit 4). A review of geospatial data obtained from the BLM Carlsbad Field Office website indicated that the site is within an area of medium risk for Karst formations, as indicated in the Cave Karst Public UCP Map (Exhibit 5).

Reclamation Standards

Per New Mexico Administrative Code (NMAC) 19.15.29.12, the closure criteria for the site are based on the remedial requirements for an on-pad release consisting of the removal of the affected soil from the surface to 4-feet below grade surface (bgs). The closure criteria are 50 mg/kg for Total Benzene, Toluene, Ethylbenzene and Xylenes (Total BTEX/EPA Method 8021B), 10 mg/kg for Benzene (EPA Method 8021B), 20,000 mg/kg for Chlorides (EPA Method 300), 2,500 mg/kg for Total Petroleum Hydrocarbons (Total TPH/EPA Method 8015M), and 1,000 mg/kg GRO (C6-C10), and DRO (C10-C28) combined (EPA Method 8015M).

Remedial / Delineation Activities

An initial investigation of the inferred release site conducted by Terracon revealed that Spur inaccurately reported the release as occurring within a lined containment area. In reality, the release was confined to the unlined containment located in the southwest corner of the pad site, which has since been remediated. Terracon conducted remedial activities at the site from October 3, 2023, through May 24, 2024. An area of approximately 10,763 square feet was affected by the release. A total of 57 locations and 116 delineation samples were collected

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October 30, 2024, | Terracon Project No. KH237044



and submitted for analysis of BTEX, Chlorides, and TPH. Analytical results for BTEX and Chloride from all of the 116 delineation samples were reported to be below applicable NMOCD closure criteria. A total of 113 of the 115 delineation sample results for TPH were below applicable NMOCD closure criteria. Two delineation samples exceeded the closure criteria for TPH at 1,110 mg/kg in DS-104 (2.5') and 2,946 mg/kg in DS-J07 (2.5'). A Delineation Sample Location Map depicting the sample locations is included in Appendix A, Exhibit 6. Delineation sample results are included in Appendix B, Table 1.

Confirmation/Closure Activities

The inferred release area was estimated to be approximately 10,763 square feet. The majority of the inferred area below closure criteria was excavated to a depth of 0.5 feet bgs to remove surface staining. The two areas that exceeded the closure criteria for TPH were at 2.5' bgs at locations I04 and J07. Areas I04 and J07 that demonstrated impacts above closure criteria was estimated to be approximately 200 square feet each and were excavated to a depth of 3 feet bgs. Four additional confirmation soil samples were collected on May 24, 2024, and submitted for analysis of BTEX, Chlorides, and TPH. Confirmation sample results for BTEX, Chloride, and TPH were below applicable NMOCD closure criteria, indicating the remediation had successfully met NMOCD remediation criteria. As a result, the excavations were backfilled with imported backfill material and brought to grade.

A total of approximately 400 cubic yards of loose soil were excavated during remedial activities. Excavated material was stockpiled on-site atop a polyethylene liner pending disposal under an approved Form C-138. The excavated material was disposed of at the Lea Land Disposal Facility. Soil disposal waste manifests are available upon request. A Confirmation Sample Map depicting the sample locations is included in Appendix A, Exhibit 7. Floor and wall confirmation sample analytical results are included in Appendix B, Table 2. Photographs of the project site are included in Appendix C. Analytical reports and Chain of Custody are included in Appendix D. Terracon Standard of Care is included in Appendix E.

Conclusion

In accordance with NMAC 19.15.29.12, remediation of the impacted material is complete. Spur Energy Partners LLC respectfully requests closure of the reportable incident that occurred on January 23, 2024, at the NMOCD Reference # nAPP2329731764 Muskegon 16 State #001 Battery location.

We at Terracon are deeply grateful for the opportunity to offer our environmental services to Spur Energy Partners LLC. We are committed to providing the highest level of service and support. Should you need further information or have any queries, we encourage you to reach out to our office at your earliest convenience.

Closure Documentation
Muskegon 16 State #001 Battery | Eddy County, New Mexico
October 30, 2024, | Terracon Project No. KH237044



Sincerely,



Prepared by:

Travis Casey
Senior Staff Scientist
Carlsbad, NM

Reviewed by:

John Grams, P.G. (TX)
Environmental Department Manager
Lubbock, TX

Attachments:

C-141 Summary Sheet

Appendix A – Exhibits

Exhibit 1	–	Topographic Map
Exhibit 2	–	Site Location Map
Exhibit 3	–	NMOSE POD Location Map
Exhibit 4	–	Designated Wetland Area Map
Exhibit 5	–	Cave Karst Public UCP Map
Exhibit 6	–	Delineation Sample Location Map
Exhibit 7	–	Confirmation Sample Location Map

Appendix B – Tables and Well Data

Table 1	–	Delineation Samples
Table 2	–	Confirmation Samples
Figure 1	–	Boring Log

Appendix C – Photographic Log

Appendix D – Analytical Reports and Chain of Custody

Appendix E – Terracon Standard of Care, Limitation, and Reliance

April 1, 2024



NMOCD REPORT DETAILS

Submission Contact, Application, Fee and Payment Details

Name:	Kathy Purvis
Email:	katherine.purvis@spurenergy.com
Phone:	(575) 441-8619

Initial Release C-141

Application Details

Incident ID:	nAPP2329731764			
District:	Artesia			
County:	Eddy			
Legal Description:	Unit: N	Section: 16	Township: 17S	Range: 29E
Lat/Long:	N: 32.82888°		E: -104.08209°	

Prerequisites

Incident Operator:	Spur Energy Partners
Release Type:	Produced Water
Incident Status:	Pending Submission

Release Information

Site Name:	Muskegon 16 State #001 Battery	
Date Discovered:	10/23/2023	(MM/DD/YYYY)
Surface Owner:	State	

Incident Details

Incident Type:	Produced Water Release
Fire:	No
Injuries:	No
Watercourse:	No
Public Health:	No
Significant to Property or Environment:	No
Detrimental to Freshwater:	No

Nature and Volume of Release

Released Product:	Produced Water		
Cause:	Equipment Failure		
Source:	Pump		
Release:	20	(bbls/Mcf)	
Recovered:	18	(bbls/Mcf)	
Additional Details:			

Nature and Volume of Release

Is this a gas submission?	No	
Was this a major release (Y/N) >25bbls?	No	
Justification of release volume calculation:	No	(Attached Release Volume Calculation)

Initial Response

Attachment 3 - Force		
Release has been stopped?	Yes	
Release area has been secured?	Yes	
Released material has been contained?	Yes	
All free liquids have been recovered?	Yes	
If actions have not been completed, why?	N/A	(Attached Explanation)

Remediation Action Plan C-141

Site Characterization

Depth to groundwater beneath effected area?	100ft - 500ft
What method was used to determine depth?	Attached Document
Did release impact GW or Surface Water?	No
Continuously flowing watercourse?	greater than 5 (mi.)
Lakebed, sinkhole, or playa (measured from the high-water mark)?	between 1 to 5 (mi.)
An occupied permanent residence?	greater than 5 (mi.)
Spring or private domestic well?	greater than 5 (mi.)
Incorporated municipal boundaries?	greater than 5 (mi.)
Wetland?	between 1/2 to 1 (mi.)
Subsurface mine?	greater than 5 (mi.)
A (non-karst) unstable area?	greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology?	Medium
A 100-year floodplain?	between 1/2 to 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site?	No

April 1, 2024



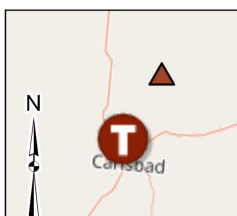
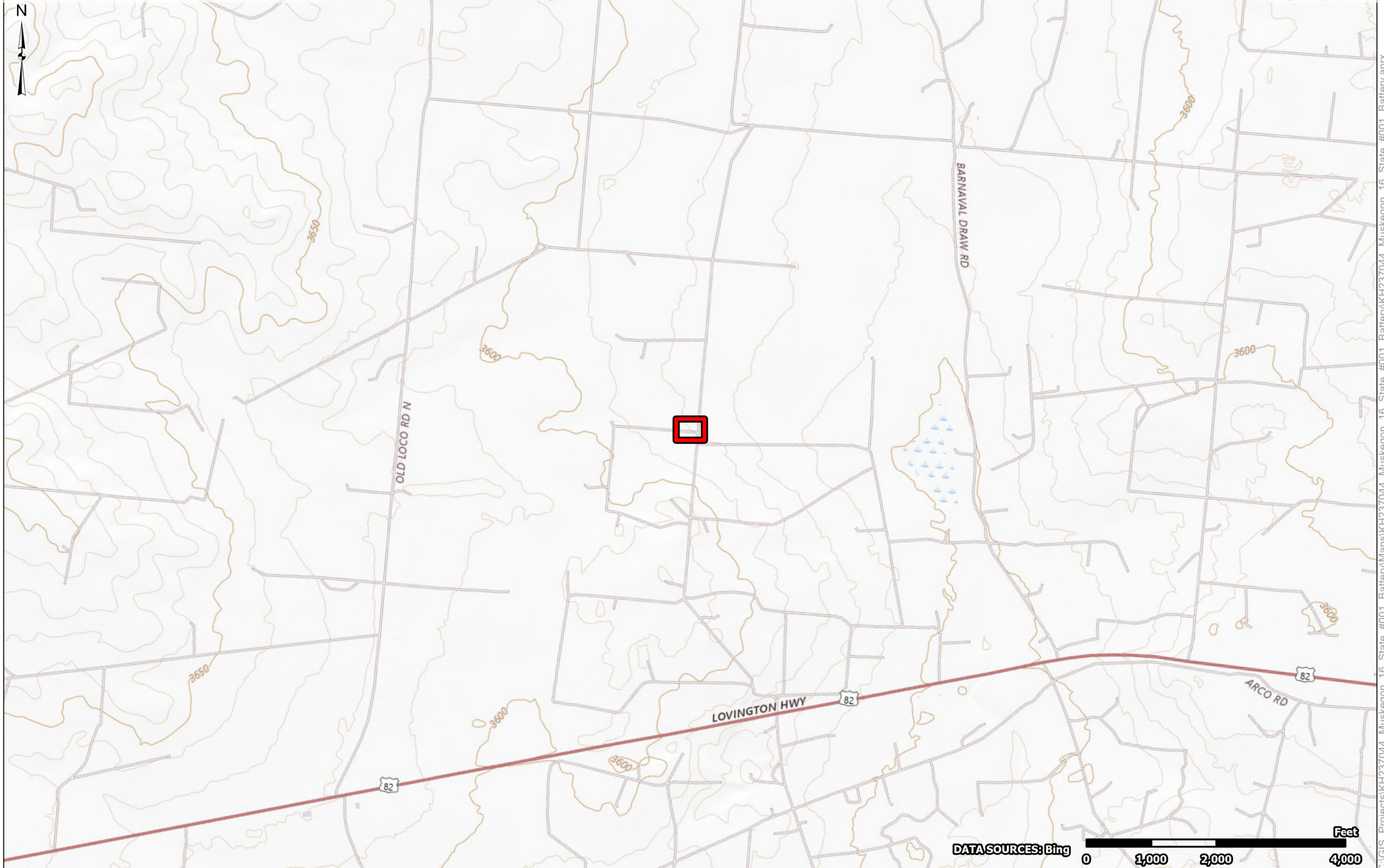
Remediation Plan

Have lateral and vertical extents of impacts been delineated, to the strictest standards?	Yes		
Was the release entirely contained within a lined containment?	No		
Soil Contamination Sampling. (provide the highest observed value for each)(0.1)	Chloride	15,700 (mg/kg)	
	Total TPH	2,946 (mg/kg)	
	GRO+DRO	2,710 (mg/kg)	
	BTEX	None (mg/kg)	
	Benzene	None (mg/kg)	
Date of Remediation Commencement.	5/20/2024		
Date of Final Sampling or Liner Inspection.	5/24/2024		
Date of Remediation Completion.	5/27/2024		
Estimated Surface Area (sq. ft.) to be reclaimed.	10,763		
Estimated Volume (cu. yds.) to be reclaimed.	0		
Estimated Surface Area (sq. ft.) to be remediated.	400		
Estimated Volume (cu. yds.) to be remediated.	50		
Excavation and off-site disposal (dig & haul).	Yes	(Ex-Situ)	
Excavation and on-site remediation (land farm).	N/A	(Ex-Situ)	
Soil Vapor Extraction.	N/A	(In-Situ)	
Chemical processing (soil shredding...etc).	N/A	(In-Situ)	
Biological processing (microbes / fertilizer...etc).	N/A	(In-Situ)	
Physical processing (soil washing, gypsum...etc).	N/A	(In-Situ)	
Ground Water Abatement.	No		
Other (Non-listed remedial process).	N/A		
Closure/Deferral Request C-141			
Deferral Request (attachment with explanation)	No		
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion.	Yes		
Total Surface Area (sq. ft.) to be remediated.	400	(Square Feet)	
Total Volume (cu. yds.) to be remediated.	50	(Cubic Yards)	
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene.	N/A		
Estimated Surface Area (sq. ft.) to be reclaimed.	10,763	(Square Feet)	
Estimated Volume (cu. yds.) to be reclaimed.	2,800	(Cubic Yards)	
Attached Summary of Additional Remediation Activities.	Yes		
Requesting Approval of Reclamation Completion.	No		

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September 10, 2024, | Terracon Project No. KH237044



APPENDIX A – EXHIBITS



 Site Boundary

Project No.:
KH237044
Date:
May 07 2024
Drawn By:
JWL
Reviewed By:
JRG

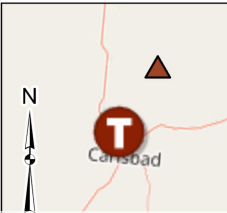
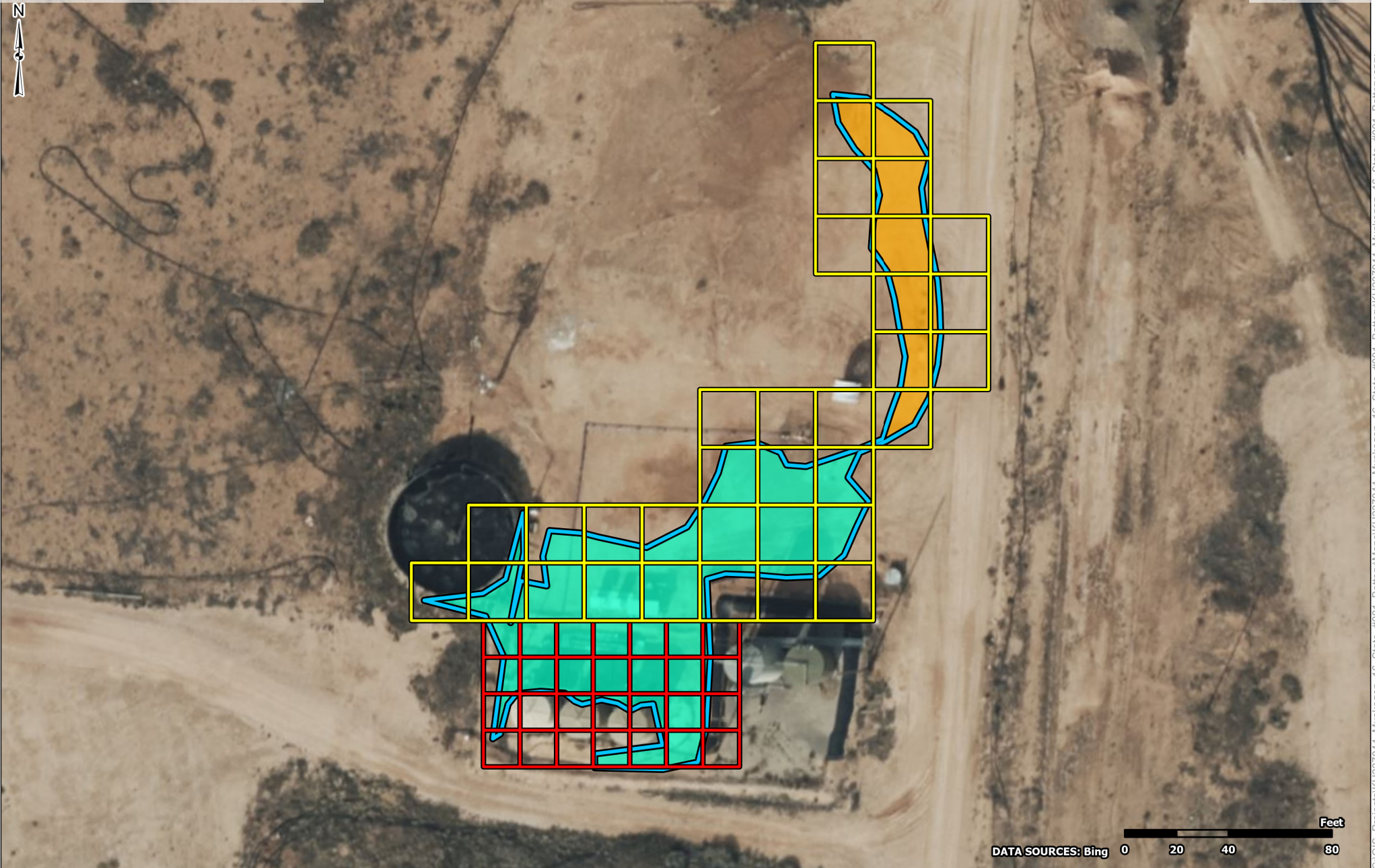
Terracon
4526 W Pierce St
Carlsbad, NM
PH. 806-300-0140 terracon.com

Topographic Map

Muskegon 16 State #001 Battery
32.82888, -104.08209
Spur Energy Partners LLC
Loco Hills, Eddy County, New Mexico

Exhibit

1



- Release - 10,763.28 Sq Ft
- 500 Sq Ft Grid (34)
- 200 Sq Ft Grid (28)
- Area 1
- Area 2

Project No.:
KH237044
Date:
May 07 2024
Drawn By:
JWL
Reviewed By:
JRG

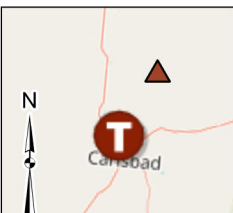
4526 W Pierce St
Carlsbad, NM
PH. 806-300-0140 terracon.com

Site Location Map

Muskegon 16 State #001 Battery
32.82888, -104.08209
Spur Energy Partners LLC
Loco Hills, Eddy County, New Mexico

Exhibit

2



-  Site Boundary
-  NMOSE POD Location

Project No.:
KH237044

Date:
Jun 26 2024

Drawn By:
JWL

Reviewed By:
JRG



4526 W Pierce St
Carlsbad, NM

PH. 806-300-0140

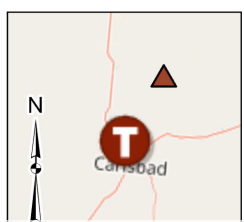
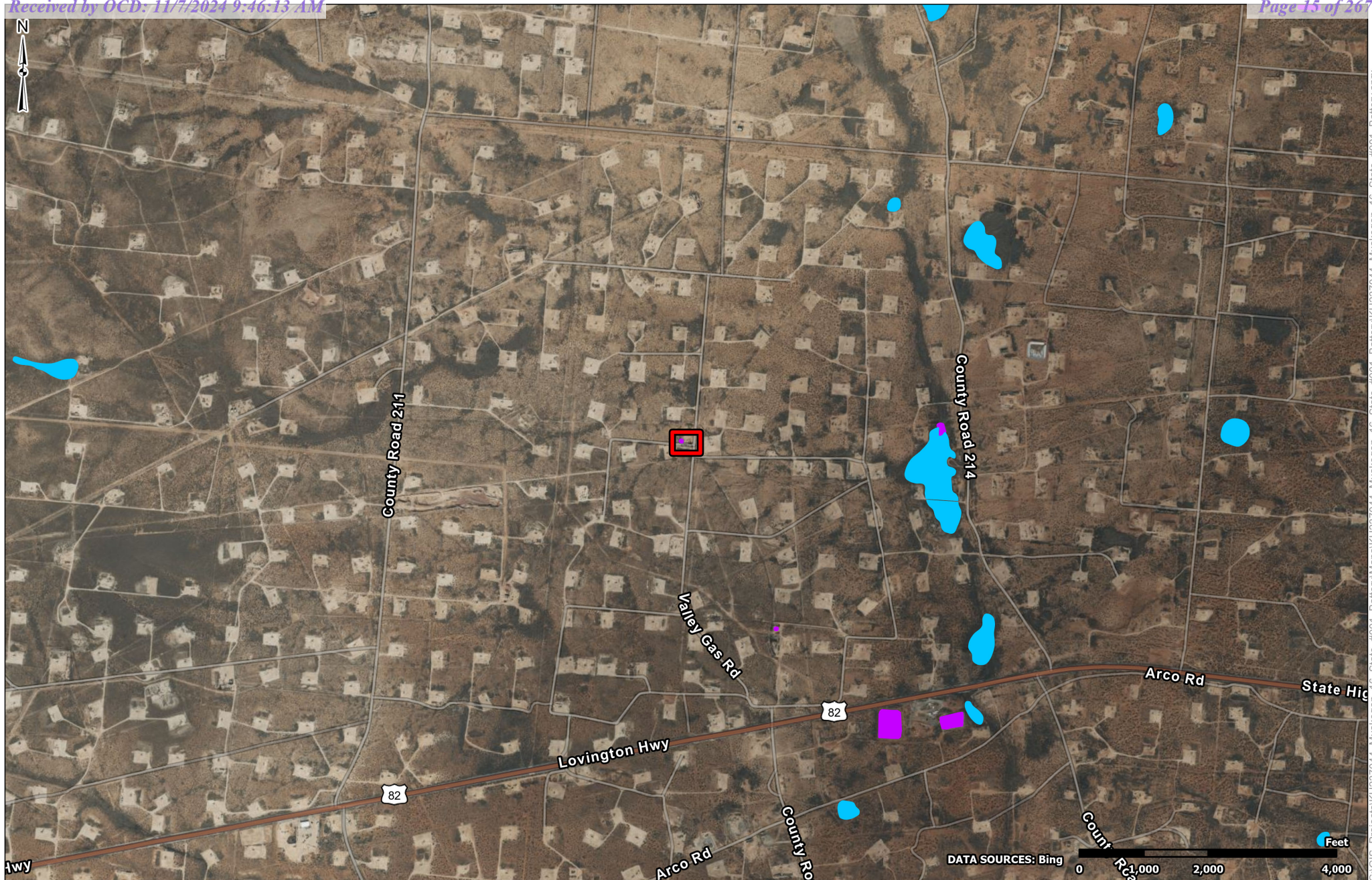
terracon.com

NMOSE POD Location Map

Muskegon 16 State #001 Battery
32.82888, -104.08209
Spur Energy Partners LLC
Loco Hills, Eddy County, New Mexico

Exhibit

3



- Site Boundary
- Freshwater Emergent Wetland
- Freshwater Pond

Project No.:
KH237044
Date:
May 07 2024
Drawn By:
JWL
Reviewed By:
JRG

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Carlsbad, NM
PH. 806-300-0140 terracon.com

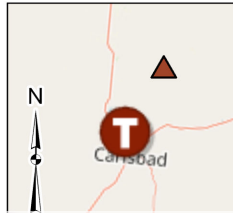
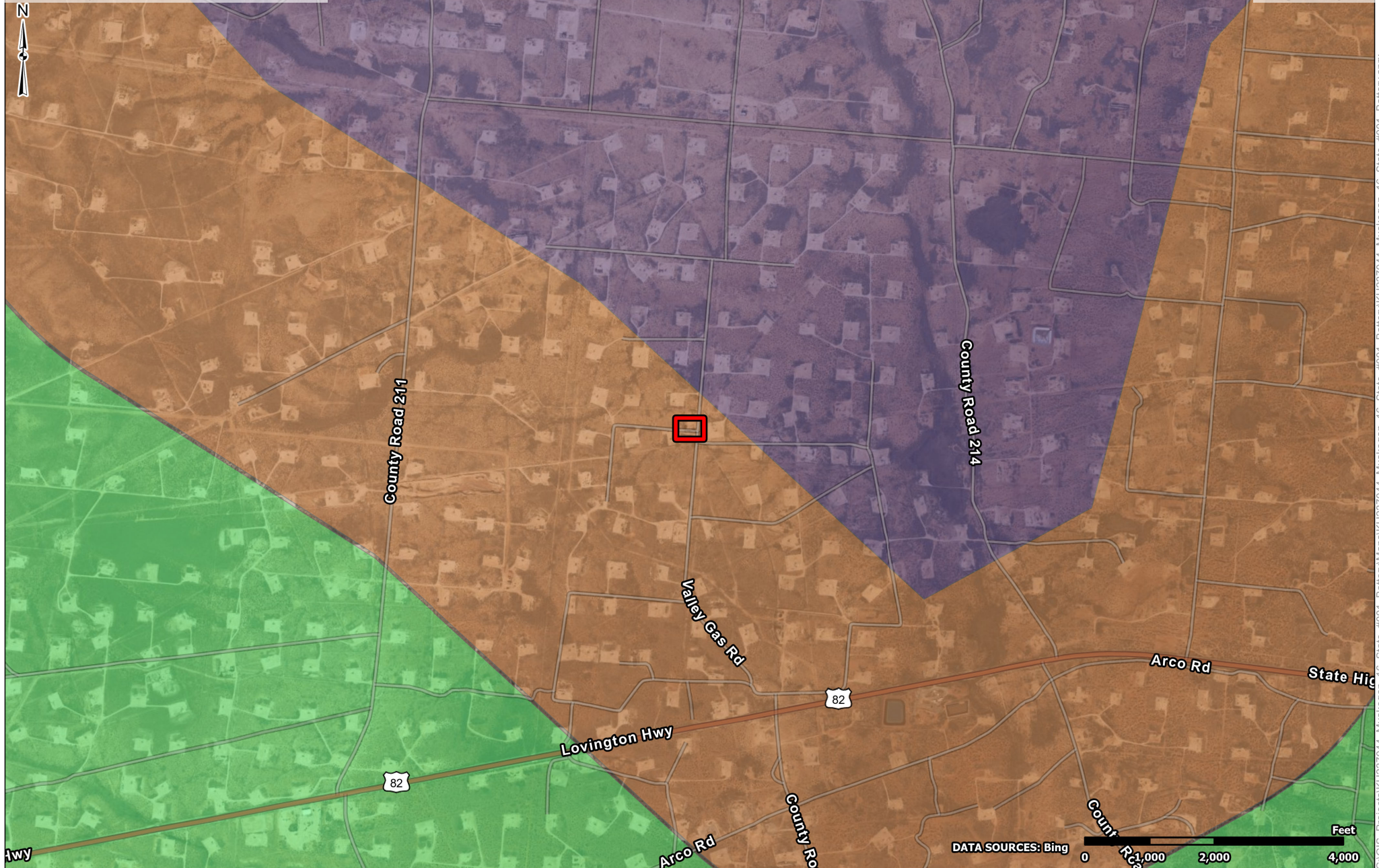
Designated Wetland Area Map

Muskegon 16 State #001 Battery
32.82888, -104.08209
Spur Energy Partners LLC
Loco Hills, Eddy County, New Mexico

Exhibit

4

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- Site Boundary
- Karst Potential
 - Low
 - Medium
 - High

Project No.: KH237044
Date: May 07 2024
Drawn By: JWL
Reviewed By: JRG

4526 W Pierce St
Carlsbad, NM
PH. 806-300-0140 terracon.com

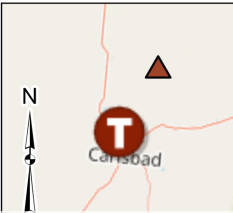
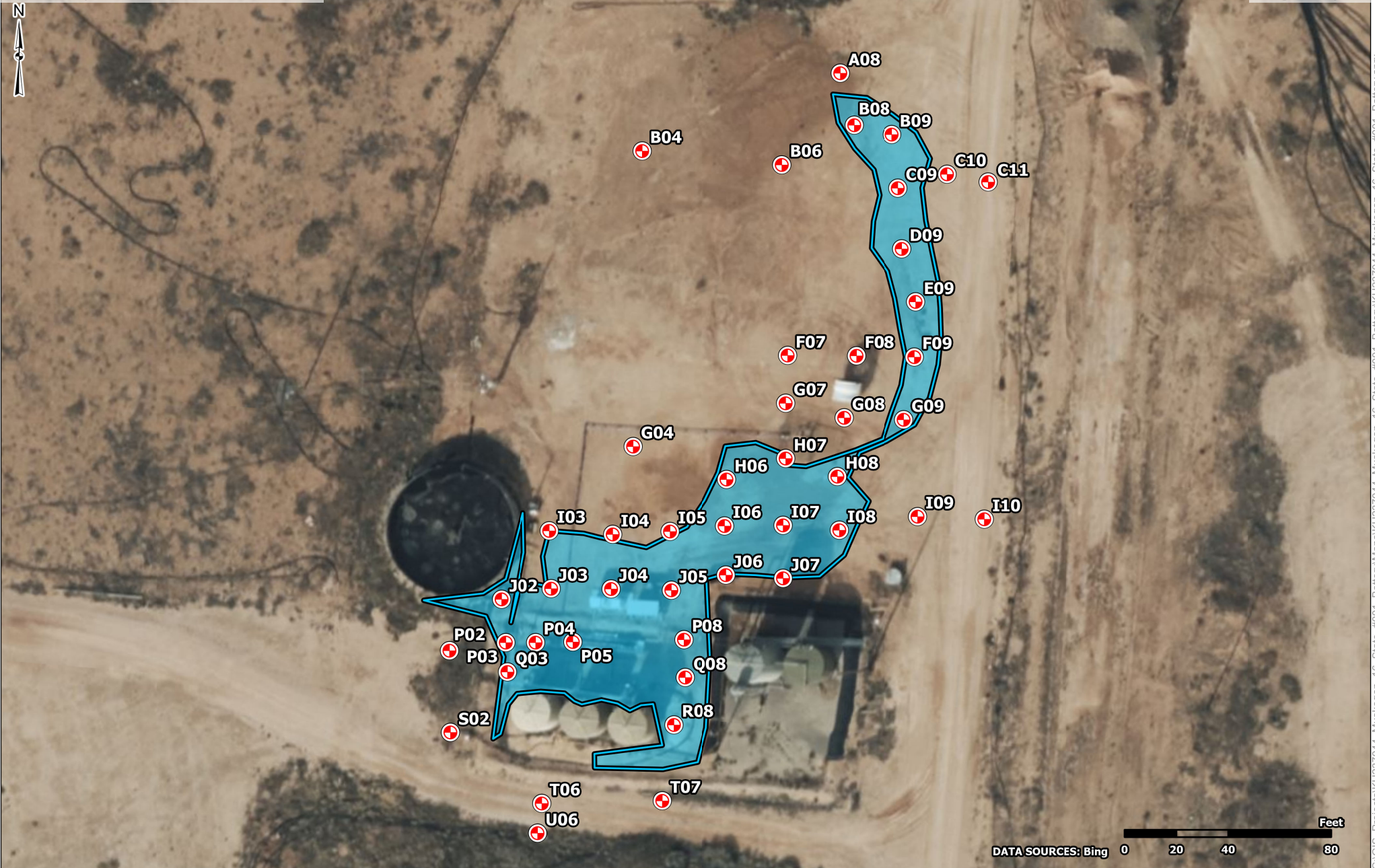
Cave Karst Public UCP Map

Muskegon 16 State #001 Battery
32.82888, -104.08209
Spur Energy Partners LLC
Loco Hills, Eddy County, New Mexico

Exhibit

5

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-  Delineation Sample
-  Inferred Release

Project No.:
KH237044

Date:
Jun 06 2024

Drawn By:
JWL

Reviewed By:
JRG



4526 W Pierce St
Carlsbad, NM

PH. 806-300-0140 terracon.com

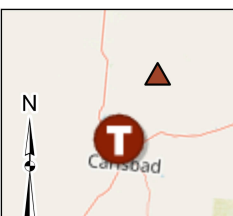
Delineation Sample Map

Muskegon 16 State #001 Battery
32.82888, -104.08209
Spur Energy Partners LLC
Loco Hills, Eddy County, New Mexico

Exhibit

6

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- Confirmation Sample
- Inferred Release
- 200 Sq Ft Confirmation Area

Project No.:
KH237044

Date:
Sep 18 2024

Drawn By:
JWL

Reviewed By:
JRG

Terracon

4526 W Pierce St
Carlsbad, NM

PH. 806-300-0140 terracon.com

Confirmation Sample Map

Muskegon 16 State #001 Battery
32.82888, -104.08209
Spur Energy Partners LLC
Loco Hills, Eddy County, New Mexico

Exhibit

7

Closure Documentation
Muskegon 16 State #001 Battery | Eddy County, New Mexico
September 10, 2024, | Terracon Project No. KH237044



APPENDIX B – TABLES AND WELL DATA

Table 1 Soil Analytical Results Summary - Delineation Samples Project Code: KH237044 NMOCD Reference No. nAPP2329731764											
Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Type	Sample Status	Chloride (mg /Kg)	Benzene (mg /Kg)	Total BTEX ¹ (mg /Kg)	Total TPH ² (mg /Kg)	Gasoline Range Organics (C6-C10) (mg /Kg)	Diesel Range Organics (Over C10-C28) (mg /Kg)	Oil Range Organics (Over C28-C36) (mg /Kg)
					EPA Method 300	EPA Method 8021B	EPA Method 8021B	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M
Release Assessment											
DS-A08	11/2/2023	0.5	Grab	In-situ	266	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	314	ND	ND	ND	ND	ND	ND
B04	4/23/2024	0.5	Grab	In-situ	384	ND	ND	ND	ND	ND	ND
B06	11/20/2023	0.5	Grab	In-situ	1,410	ND	ND	ND	ND	ND	ND
		2.0	Grab	In-situ	3,010	ND	ND	ND	ND	ND	ND
DS-B08	11/2/2023	0.5	Grab	In-situ	8,340	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	1,670	ND	ND	ND	ND	ND	ND
DS-B09	11/2/2023	0.5	Grab	In-situ	3,310	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	1,620	ND	ND	ND	ND	ND	ND
DS-C09	11/2/2023	2.5	Grab	In-situ	951	ND	ND	ND	ND	ND	ND
C10	11/20/2023	0.1	Grab	In-situ	3,380	ND	ND	ND	ND	ND	ND
		2.0	Grab	In-situ	626	ND	ND	ND	ND	ND	ND
C11	4/23/2024	0.5	Grab	In-situ	368	ND	ND	ND	ND	ND	ND
DS-D09	11/2/2023	4.5	Grab	In-situ	2,720	ND	ND	ND	ND	ND	ND
DS-E09	11/2/2023	0.5	Grab	In-situ	4,380	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	349	ND	ND	ND	ND	ND	ND
F07	4/23/2024	0.5	Grab	In-situ	192	ND	ND	ND	ND	ND	ND
F08	4/23/2024	0.5	Grab	In-situ	160	ND	ND	ND	ND	ND	ND
DS-F09	11/2/2023	0.5	Grab	In-situ	4,550	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	416	ND	ND	ND	ND	ND	ND
G04	11/20/2023	0.5	Grab	In-situ	517	ND	ND	ND	ND	76.5	ND
		2.0	Grab	In-situ	77.8	ND	ND	ND	ND	ND	ND
DS-G07	11/2/2023	0.5	Grab	In-situ	6,590	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	1,920	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	1,500	ND	ND	ND	ND	ND	ND
DS-G08	11/2/2023	0.5	Grab	In-situ	853	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	1,780	ND	ND	ND	ND	ND	ND
DS-G09	11/2/2023	2.5	Grab	In-situ	148	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	1,730	ND	ND	ND	ND	ND	ND
DS-H06	11/2/2023	0.5	Grab	In-situ	2,480	ND	ND	218	ND	218	ND
		5.0	Grab	In-situ	1,560	ND	ND	ND	ND	ND	ND
DS-H07	11/2/2023	0.5	Grab	In-situ	1,980	ND	ND	52.4	ND	52.4	ND
		4.5	Grab	In-situ	3,160	ND	ND	ND	ND	ND	ND
DS-H08	11/2/2023	0.5	Grab	In-situ	1,530	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	377	ND	ND	ND	ND	ND	ND
DS-I03	11/2/2023	0.5	Grab	In-situ	1,720	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	397	ND	ND	ND	ND	ND	ND
DS-I04	11/2/2023	2.5	Grab	In-situ	15,700	ND	ND	1110	ND	1110	ND
		5.0	Grab	In-situ	1,990	ND	ND	ND	ND	ND	ND
DS-I05	11/2/2023	0.5	Grab	In-situ	2,060	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	4,170	ND	ND	70	ND	70	ND
DS-I06	11/2/2023	0.5	Grab	In-situ	1,510	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	9,200	ND	ND	414	ND	414	ND
		4.5	Grab	In-situ	3,710	ND	ND	ND	ND	ND	ND

Table 1 Soil Analytical Results Summary - Delineation Samples Project Code: KH237044 NMOCD Reference No. nAPP2329731764											
Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Type	Sample Status	Chloride (mg /Kg)	Benzene (mg /Kg)	Total BTEX ¹ (mg /Kg)	Total TPH ² (mg /Kg)	Gasoline Range Organics (C6-C10) (mg /Kg)	Diesel Range Organics (Over C10-C28) (mg /Kg)	Oil Range Organics (Over C28-C36) (mg /Kg)
					EPA Method 300	EPA Method 8021B	EPA Method 8021B	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M
DS-I07	11/2/2023	0.5	Grab	In-situ	283	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	2,060	ND	ND	ND	ND	ND	ND
	11/21/2024	8.0	Grab	In-situ	90.5	ND	ND	ND	ND	ND	ND
DS-I08	11/2/2023	0.5	Grab	In-situ	3,060	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	1,600	ND	ND	ND	ND	ND	ND
I09	11/20/2023	0.5	Grab	In-situ	1,070	ND	ND	ND	ND	ND	ND
		2.0	Grab	In-situ	421	ND	ND	ND	ND	ND	ND
I10	4/23/2024	0.5	Grab	In-situ	16	ND	ND	ND	ND	ND	ND
DS-J02	11/2/2023	0.5	Grab	In-situ	1,480	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	10,700	ND	ND	82.1	ND	82.1	ND
DS-J03	11/2/2023	0.5	Grab	In-situ	1,840	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	3,100	ND	ND	73.4	ND	73.4	ND
DS-J04	11/2/2023	0.5	Grab	In-situ	2,640	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	14,100	ND	ND	ND	ND	ND	ND
DS-J05	11/2/2023	0.5	Grab	In-situ	3,530	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	5,980	ND	ND	ND	ND	ND	ND
DS-J06	11/2/2023	0.5	Grab	In-situ	6,300	ND	ND	62.5	ND	62.5	ND
		2.5	Grab	In-situ	1,210	ND	ND	ND	ND	ND	ND
DS-J07	11/2/2023	0.5	Grab	In-situ	422	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	3,530	ND	ND	2946	ND	2710	236
		4.5	Grab	In-situ	256	ND	ND	ND	ND	ND	ND
P02	11/20/2023	0.5	Grab	In-situ	601	ND	ND	ND	ND	ND	ND
		2.0	Grab	In-situ	77	ND	ND	ND	ND	ND	ND
DS-P03	11/3/2023	0.5	Grab	In-situ	1,090	ND	ND	145	ND	93.4	51.3
		2.5	Grab	In-situ	6,590	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	2,700	ND	ND	ND	ND	ND	ND
DS-P04	11/3/2023	0.5	Grab	In-situ	7,960	ND	ND	208	ND	152	55.5
		2.5	Grab	In-situ	2,090	ND	ND	ND	ND	52.1	ND
		5.0	Grab	In-situ	1,950	ND	ND	ND	ND	ND	ND
DS-P05	11/3/2023	0.5	Grab	In-situ	10,600	ND	ND	51	ND	51.1	ND
		2.0	Grab	In-situ	10,600	ND	ND	279	ND	185	94.1
DS-P08	11/3/2023	4.5	Grab	In-situ	2,320	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	6,080	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	2,320	ND	ND	ND	ND	ND	ND
DS-Q03	10/3/2023	0.5	Grab	In-situ	8,420	ND	ND	827	ND	611	216
		2.5	Grab	In-situ	3,560	ND	ND	65	ND	65.4	ND
		4.5	Grab	In-situ	1,570	ND	ND	ND	ND	ND	ND
DS-Q08	10/3/2023	0.5	Grab	In-situ	2,230	ND	ND	ND	ND	ND	ND
		2.5	Grab	In-situ	8,020	ND	ND	ND	ND	ND	ND
		4.5	Grab	In-situ	5,140	ND	ND	ND	ND	ND	ND
R08	11/21/2023	7.0	Grab	In-situ	327	ND	ND	ND	ND	ND	ND
S02	11/20/2023	0.5	Grab	In-situ	21	ND	ND	ND	ND	ND	ND
		2.0	Grab	In-situ	27	ND	ND	ND	ND	ND	ND
T06	11/20/2023	0.5	Grab	In-situ	233	ND	ND	144	ND	144	ND
		2.0	Grab	In-situ	488	ND	ND	ND	ND	ND	ND

Table 1 Soil Analytical Results Summary - Delineation Samples Project Code: KH237044 NMOCD Reference No. nAPP2329731764											
Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Type	Sample Status	Chloride (mg/Kg)	Benzene (mg/Kg)	Total BTEX ¹ (mg/Kg)	Total TPH ² (mg/Kg)	Gasoline Range Organics (C6-C10) (mg/Kg)	Diesel Range Organics (Over C10-C28) (mg/Kg)	Oil Range Organics (Over C28-C36) (mg/Kg)
					EPA Method 300	EPA Method 8021B	EPA Method 8021B	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M
T07	11/20/2023	0.5	Grab	In-situ	129	ND	ND	ND	ND	ND	ND
		2.0	Grab	In-situ	519	ND	ND	ND	ND	ND	ND
U06	4/23/2024	0.5	Grab	In-situ	544	ND	ND	ND	ND	ND	ND
C-19	1/31/2024	0.50	Grab	In-situ	60.7	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	500	ND	ND	ND	ND	ND	ND
D-20	1/31/2024	0.50	Grab	In-situ	68.2	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	558	ND	ND	ND	ND	ND	ND
E-17	1/31/2024	0.50	Grab	In-situ	272	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	316	ND	ND	ND	ND	ND	ND
E-19	1/31/2024	0.50	Grab	In-situ	119	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	528	ND	ND	ND	ND	ND	ND
F-12	1/31/2024	0.50	Grab	In-situ	4,390	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	91.6	ND	ND	ND	ND	ND	ND
	1/31/2024	4.00	Grab	In-situ	60.6	ND	ND	ND	ND	ND	ND
F-14	1/31/2024	0.50	Grab	In-situ	4,560	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	283	ND	ND	ND	ND	ND	ND
	1/31/2024	4.00	Grab	In-situ	264	ND	ND	ND	ND	ND	ND
G-15	1/31/2024	0.50	Grab	In-situ	141	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	281	ND	ND	ND	ND	ND	ND
H-13	1/31/2024	0.50	Grab	In-situ	79.8	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	247	ND	ND	ND	ND	ND	ND
I-11	1/31/2024	0.50	Grab	In-situ	98.7	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	62.1	ND	ND	ND	ND	ND	ND
J-9	1/31/2024	0.50	Grab	In-situ	71.5	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	77.3	ND	ND	ND	ND	ND	ND
K-5	1/31/2024	0.50	Grab	In-situ	94.6	ND	ND	ND	ND	ND	ND
	1/31/2024	2.00	Grab	In-situ	214	ND	ND	ND	ND	ND	ND
NMOCD Reclamation Standards ³					20,000	10	50	2,500	1,000		NA
NMOCD Remediation Standards ⁴					20,000	10	50	2,500	1,000		NA
1. BTEX = Benzene, toluene, ethylbenzene, and total xylenes 2. TPH = Total petroleum hydrocarbons 3. New Mexico Administration Code (NMAC) Restoration, Reclamation and Re-vegetation (19.15.29.13), NMAC-D (Reclamation of Areas No Longer in Use) for Soils Extending to 4 ft. bgs 4. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards (19.15.29.12) NMAC-N, 8/14/2018 ND = Constituent was not detected above the indicated laboratory sample detection limit (SDL). NA = Not Analyzed Bold and Highlighted denote concentrations that exceed the NMOCD Reclamation and/or Remediation and Delineation Standards. In-situ = Sample is representative of material which remains in-place at the site. Excavated = Sample is representative of materials which was excavated and disposed of at a permitted disposal facility.											

Table 2 Soil Analytical Results Summary - Confirmation Evaluation Project Code: KH237044 NMOCD Reference No. nAPP2329731764											
Sample ID	Sample Date	Sample Depth (ft bgs)	Sample Type	Sample Status	Chloride (mg/Kg)	Benzene (mg/Kg)	Total BTEX ¹ (mg/Kg)	Total TPH ² (mg/Kg)	Gasoline Range Organics (C6-C10) (mg/Kg)	Diesel Range Organics (Over C10-C28) (mg/Kg)	Oil Range Organics (Over C28-C36) (mg/Kg)
					EPA Method 300	EPA Method 8021B	EPA Method 8021B	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M	EPA Method 8015M
Confirmation Floor Samples											
I04-FS	5/24/2024	3	Composite	In-Situ	688	ND	ND	ND	ND	ND	ND
I04-SW	5/24/2024	0-3	Composite	In-Situ	736	ND	ND	ND	ND	ND	ND
J07-FS	5/24/2024	3	Composite	In-Situ	880	ND	ND	ND	ND	ND	ND
J07-SW	5/24/2024	0-3	Composite	In-Situ	464	ND	ND	ND	ND	ND	ND
NMOCD Reclamation Standards ³ (Surface to 4 ft bgs)					20,000	10	50	2,500	1,000		NA
NMOCD Remediation Standards ⁴ (Greater than Depths of 4 ft)					20,000	10	50	2,500	1,000		NA
1. BTEX = Benzene, toluene, ethylbenzene, and total xylenes 2. TPH = Total petroleum hydrocarbons 3. New Mexico Administration Code (NMAC) Restoration, Reclamation and Re-vegetation (19.15.29.13), NMAC-D (Reclamation of Areas No Longer in Use) for Soils Extending to 4 ft. bgs 4. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards (19.15.29.12) NMAC-N, 8/14/2018 < = Constituent was not detected above the indicated laboratory sample detection limit (SDL). NA = Not Analyzed Bold denotes concentrations above applicable laboratory SDLs. Bold and Highlighted denote concentrations that exceed the NMOCD Reclamation and/or Remediation and Delineation Standards. In-situ = Sample is representative of material which remains in-place at the site. Excavated = Sample is representative of materials which was excavated and disposed of at a permitted disposal facility.											



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

March 19, 2024

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record RA-13421 Pod-1

To whom it may concern:

Attached please find a well log & record and a plugging record, in duplicate, for a one (1) soil borings, RA-13421 Pod-1.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Lucas Middleton". The signature is fluid and cursive.

Lucas Middleton

Enclosures: as noted above

OGE OFF MAR 19 2024 PM 1:56



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DT MAR 19 2024 11:56

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD 1 (TW-1)		WELL TAG ID NO. N/A		OSE FILE NO(S). RA-13421			
	WELL OWNER NAME(S) Spur Energy Partners LLC				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 919 Milam St Ste 2475				CITY Houston	STATE TX	ZIP 77002	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 49	SECONDS 43.00	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
		LONGITUDE 104	4	57.67	W	* DATUM REQUIRED: WGS 84		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SW SE SW Sec. 16 T17S R29E, NMPM								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 04/05/2024	DRILLING ENDED 04/05/2024	DEPTH OF COMPLETED WELL (FT) Temporary Well Material		BORE HOLE DEPTH (FT) ±101	DEPTH WATER FIRST ENCOUNTERED (FT) N/A		
	COMPLETED WELL IS: ☐ ARTESIAN ☒ DRY HOLE ☐ SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) N/A	DATE STATIC MEASURED 3/19/2024		
	DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:							
	DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☒ OTHER – SPECIFY: Hollow Stem Auger					CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐		
	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	0 101		±6.25	Soil Boring	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
				N/A				

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)		ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
	FROM	TO					
	0	14	14	Sand, fine-grained, poorly graded, unconsolidated , increasing gravel Light Brown	Y	✓ N	
	14	39	25	Sand, fine-grained, poorly graded, unconsolidated , gravel(0.25") Reddish Brown	Y	✓ N	
	39	59	20	Clay, low plastic, with fine-grained sand, Reddish Brown	Y	✓ N	
	59	79	20	Clay, low plastic, with very fine-grained sand, Reddish Brown	Y	✓ N	
	79	101	22	Clay, High plastic,very fine-grained sand,some gravel (>0.25") Reddish Brown	Y	✓ N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00		

5. TEST, RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Temporary well material removed and soil boring backfilled using drill cuttings from total depth to ten feet below ground surface(bgs), then hydrated bentonite chips ten feet bgs to surface. USE DIT MAR 19 2024 PM 1:57	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge, Cameron Pruitt		

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:
 <u>Jack Atkins</u> Jack Atkins (Mar 19, 2024 12:53 MDT) Jackie D. Atkins 03/19/2024 SIGNATURE OF DRILLER / PRINT SIGNEE NAME	DATE



PLUGGING RECORD



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

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: RA-13421 POD-1

Well owner: Spur Energy Partners LLC

Phone No.: _____

Mailing address: 919 Milam St Ste 2475

City: Houston State: TX Zip code: 77002

II. WELL PLUGGING INFORMATION:

- 1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)
- 2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/25
- 3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge
- 4) Date well plugging began: 03/19/2024 Date well plugging concluded: 03/19/2024
- 5) GPS Well Location: Latitude: 32 deg, 49 min, 43.00 sec
Longitude: 104 deg, 4 min, 57.67 sec, WGS 84
- 6) Depth of well confirmed at initiation of plugging as: 101 ft below ground level (bgl),
by the following manner: weighted tape
- 7) Static water level measured at initiation of plugging: n/a ft bgl
- 8) Date well plugging plan of operations was approved by the State Engineer: 2/13/2024
- 9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

OSE DIT MAR 19 2024 PM 1:57

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

For each interval plugged, describe within the following columns:

[illegible]

MULTIPLY		BY	AND OBTAIN
cubic feet	x	7.4805	= gallons
cubic yards	x	201.97	= gallons

USE OF MAR 10 2024 PM 1:57

III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jack Atkins
Jack Atkins (Mar 19, 2024 12:53 MDT)

Signature of Well Driller

03/19/2024

Date _____

2024-03-19-RA-13421-wellog-packet

Final Audit Report

2024-03-19

Created:	2024-03-19
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA51F053gedBuiqB68Q8aOf8ojbqB-VcP

"2024-03-19-RA-13421-wellog-packet" History

-  Document created by Lucas Middleton (lucas@atkinseng.com)
2024-03-19 - 6:34:04 PM GMT- IP address: 24.49.111.239
-  Document emailed to Jack Atkins (jack@atkinseng.com) for signature
2024-03-19 - 6:34:36 PM GMT
-  Email viewed by Jack Atkins (jack@atkinseng.com)
2024-03-19 - 6:45:47 PM GMT- IP address: 64.90.153.232
-  Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2024-03-19 - 6:53:19 PM GMT - Time Source: server- IP address: 64.90.153.232
-  Agreement completed.
2024-03-19 - 6:53:19 PM GMT

00E 011 MAR 19 2024 PM 1:57

Closure Documentation
Muskegon 16 State #001 Battery | Eddy County, New Mexico
September 10, 2024, | Terracon Project No. KH237044



APPENDIX C – PHOTOGRAPHIC LOG

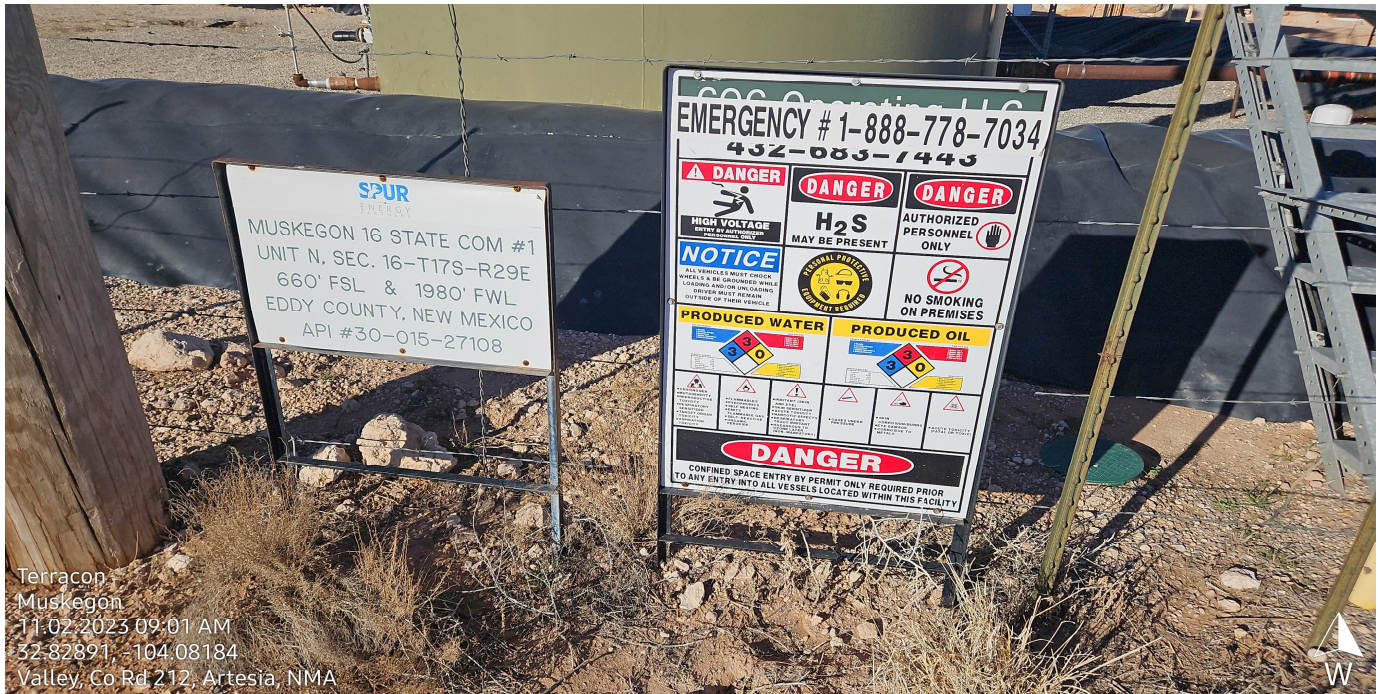


Photo 1

Site Specific Information



Photo 2

On Pad Release Within Fenced Area



Photo 3

On Pad Release



Photo 4

On Pad Release



Photo 5

Excavation in Progress on Pad



Photo 6

Excavation in Progress on Pad Continued



Photo 7

Backfilled, Clean Fenced in Area



Photo 8

Backfilled Area on Pad

Closure Documentation
Muskegon 16 State #001 Battery | Eddy County, New Mexico
September 10, 2024, | Terracon Project No. KH237044



APPENDIX D – ANALYTICAL REPORT AND CHAIN OF CUSTODY



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 05, 2024

JOSEPH GUESNIER

TERRACON CONSULTANTS

5827 50TH ST. SUITE 1

LUBBOCK, TX 79424

RE: MUSKEGON

Enclosed are the results of analyses for samples received by the laboratory on 04/25/24 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly distinguishable.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 04/25/2024
 Reported: 06/05/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 04/23/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B 04 0.5' (H242214-01)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/26/2024	ND	1.73	86.6	2.00	1.40	
Toluene*	<0.050	0.050	04/26/2024	ND	1.69	84.7	2.00	1.12	
Ethylbenzene*	<0.050	0.050	04/26/2024	ND	1.72	86.1	2.00	0.00720	
Total Xylenes*	<0.150	0.150	04/26/2024	ND	5.12	85.4	6.00	0.103	
Total BTEX	<0.300	0.300	04/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	04/29/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2024	ND	178	89.1	200	2.55	
DRO >C10-C28*	<10.0	10.0	04/29/2024	ND	167	83.4	200	4.20	
EXT DRO >C28-C36	<10.0	10.0	04/29/2024	ND					

Surrogate: 1-Chlorooctane 68.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.8 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 04/25/2024
 Reported: 06/05/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 04/23/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: C 11 0.5' (H242214-02)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/26/2024	ND	1.73	86.6	2.00	1.40		
Toluene*	<0.050	0.050	04/26/2024	ND	1.69	84.7	2.00	1.12		
Ethylbenzene*	<0.050	0.050	04/26/2024	ND	1.72	86.1	2.00	0.00720		
Total Xylenes*	<0.150	0.150	04/26/2024	ND	5.12	85.4	6.00	0.103		
Total BTEX	<0.300	0.300	04/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	04/29/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/26/2024	ND	178	89.1	200	2.55	
DRO >C10-C28*	<10.0	10.0	04/26/2024	ND	167	83.4	200	4.20	
EXT DRO >C28-C36	<10.0	10.0	04/26/2024	ND					

Surrogate: 1-Chlorooctane 75.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.0 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 04/25/2024
 Reported: 06/05/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 04/23/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: F 07 0.5' (H242214-03)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/26/2024	ND	1.73	86.6	2.00	1.40		
Toluene*	<0.050	0.050	04/26/2024	ND	1.69	84.7	2.00	1.12		
Ethylbenzene*	<0.050	0.050	04/26/2024	ND	1.72	86.1	2.00	0.00720		
Total Xylenes*	<0.150	0.150	04/26/2024	ND	5.12	85.4	6.00	0.103		
Total BTEx	<0.300	0.300	04/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	04/29/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/26/2024	ND	193	96.7	200	1.05	
DRO >C10-C28*	<10.0	10.0	04/26/2024	ND	178	89.2	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	04/26/2024	ND					

Surrogate: 1-Chlorooctane 82.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.6 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 04/25/2024
 Reported: 06/05/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 04/23/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: F 08 0.5' (H242214-04)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/26/2024	ND	1.73	86.6	2.00	1.40		
Toluene*	<0.050	0.050	04/26/2024	ND	1.69	84.7	2.00	1.12		
Ethylbenzene*	<0.050	0.050	04/26/2024	ND	1.72	86.1	2.00	0.00720		
Total Xylenes*	<0.150	0.150	04/26/2024	ND	5.12	85.4	6.00	0.103		
Total BTEX	<0.300	0.300	04/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	04/26/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/26/2024	ND	193	96.7	200	1.05	
DRO >C10-C28*	<10.0	10.0	04/26/2024	ND	178	89.2	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	04/26/2024	ND					

Surrogate: 1-Chlorooctane 85.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.9 % 49.1-148

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 04/25/2024
 Reported: 06/05/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 04/23/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: I 10 0.5' (H242214-05)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/26/2024	ND	1.73	86.6	2.00	1.40		
Toluene*	<0.050	0.050	04/26/2024	ND	1.69	84.7	2.00	1.12		
Ethylbenzene*	<0.050	0.050	04/26/2024	ND	1.72	86.1	2.00	0.00720		
Total Xylenes*	<0.150	0.150	04/26/2024	ND	5.12	85.4	6.00	0.103		
Total BTX	<0.300	0.300	04/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	04/26/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/26/2024	ND	193	96.7	200	1.05	
DRO >C10-C28*	<10.0	10.0	04/26/2024	ND	178	89.2	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	04/26/2024	ND					

Surrogate: 1-Chlorooctane 98.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.7 % 49.1-148

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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 04/25/2024
 Reported: 06/05/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 04/23/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: U 06 0.5' (H242214-06)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/26/2024	ND	1.73	86.6	2.00	1.40		
Toluene*	<0.050	0.050	04/26/2024	ND	1.69	84.7	2.00	1.12		
Ethylbenzene*	<0.050	0.050	04/26/2024	ND	1.72	86.1	2.00	0.00720		
Total Xylenes*	<0.150	0.150	04/26/2024	ND	5.12	85.4	6.00	0.103		
Total BTEX	<0.300	0.300	04/26/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	544	16.0	04/26/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/26/2024	ND	193	96.7	200	1.05	
DRO >C10-C28*	<10.0	10.0	04/26/2024	ND	178	89.2	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	04/26/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.0 % 49.1-148

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Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a horizontal line.

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Terracon

Project Manager: Joseph Guesnier

Address: 4518 W. Perice Street

City: Carlsbad

Phone #: 8065077057

Project #: KH237044

Project Name: Mustang

Project Location:

Sampler Name: Travis Casey

FOR LAB USE ONLY

Lab I.D. Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME
1	304	*	1										4-23	1018
2	C11		1											1020
3	F07		1											1024
4	F08		1											1028
5	I10		1											1032
6	U06		1											1038

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Elinquished By:

Date: 4-25-24

Received By:

Elinquished By:

Date: 4-25-24

Received By:

BILL TO

P.O. #:

Company: S&W

Attn: Kuckey

Address:

City:

State: Zip:

Phone #:

Fax #:

ANALYSIS REQUEST

Chloride (EPA Method 4500)
TPH Extended 8015
BTEX (EPA Method 8021B)

Verbal Result: ☐ Yes ☐ No Add'l Phone #:

All Results are emailed. Please provide Email address:

REMARKS: * Customer requested depth changes. Joseph.Guesnier@terracon.com; travis.casey@terracon.com; austin.worley@terracon.com; michael.adams@terracon.com

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C

Corrected Temp. °C

Sample Condition Cool Intact

Yes ☐ No ☐

CHECKED BY: (Initials)

20

Turnaround Time:

Standard Rush

Bacteria (only)

Cool Intact

Sample Condition

Observed Temp. °C

Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Joseph Guesnier
Terracon Consulting Eng & Scientists
2526 W Pierce Street
Carlsbad, New Mexico 88220

Generated 11/9/2023 6:38:35 PM

JOB DESCRIPTION

Muskegon
SDG NUMBER KH237044

JOB NUMBER

890-5565-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
11/9/2023 6:38:35 PM

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

Eurofins Carlsbad

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification # 02015.

VL = field staff performs tests under NJ State certification # 06005.

WG = field staff performs tests under NJ State certification # PA001, PA State certification # 48-01334.

H = field staff performs tests under NJ NELAP certification # PA093, PA NELAP certification # 46-05499.

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Laboratory Job ID: 890-5565-1
SDG: KH237044

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Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Job ID: 890-5565-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-5565-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 11/3/2023 1:04 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: DS-A08 (890-5565-1), DS-A08 (890-5565-2), DS-A08 (890-5565-3), DS-B08 (890-5565-4), DS-B08 (890-5565-5), DS-B08 (890-5565-6), DS-B09 (890-5565-7), DS-C09 (890-5565-8), DS-D09 (890-5565-9), DS-E09 (890-5565-10), DS-E09 (890-5565-11), DS-E09 (890-5565-12), DS-F09 (890-5565-13), DS-F09 (890-5565-14), DS-G09 (890-5565-15), DS-G09 (890-5565-16), DS-G09 (890-5565-17), DS-G08 (890-5565-18), DS-G08 (890-5565-19), DS-G08 (890-5565-20), DS-G07 (890-5565-21), DS-G07 (890-5565-22), DS-G07 (890-5565-23), DS-H08 (890-5565-24), DS-H08 (890-5565-25), DS-H08 (890-5565-26), DS-H07 (890-5565-27), DS-H07 (890-5565-28), DS-H07 (890-5565-29), DS-H06 (890-5565-30), DS-H06 (890-5565-31), DS-H06 (890-5565-32), DS-I08 (890-5565-33), DS-I08 (890-5565-34), DS-I08 (890-5565-35), DS-I07 (890-5565-36), DS-I07 (890-5565-37), DS-I07 (890-5565-38), DS-I06 (890-5565-39), DS-I06 (890-5565-40), DS-I06 (890-5565-41), DS-I05 (890-5565-42), DS-I05 (890-5565-43), DS-I05 (890-5565-44), DS-I04 (890-5565-45), DS-I04 (890-5565-46), DS-I04 (890-5565-47), DS-I03 (890-5565-48), DS-I03 (890-5565-49), DS-I03 (890-5565-50), DS-J07 (890-5565-51), DS-J07 (890-5565-52), DS-J07 (890-5565-53), DS-J06 (890-5565-54), DS-J06 (890-5565-55), DS-J06 (890-5565-56), DS-J05 (890-5565-57), DS-J05 (890-5565-58), DS-J04 (890-5565-59), DS-J04 (890-5565-60), DS-J04 (890-5565-61), DS-J03 (890-5565-62), DS-J03 (890-5565-63), DS-J03 (890-5565-64), DS-J02 (890-5565-65), DS-J02 (890-5565-66), DS-J02 (890-5565-67), DS-B09 (890-5565-68) and DS-B09 (890-5565-69).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: DS-I03 (890-5565-49), DS-J07 (890-5565-53), DS-J06 (890-5565-54), DS-J05 (890-5565-58) and DS-J04 (890-5565-60). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-66217 and analytical batch 880-66220 was outside the upper control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-66262 and analytical batch 880-66231 was outside the upper control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-66261 and analytical batch 880-66350 was outside the control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: DS-G08 (890-5565-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Job ID: 890-5565-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-66310 and analytical batch 880-66223 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: DS-H08 (890-5565-24), DS-H08 (890-5565-26), DS-H07 (890-5565-27), DS-H07 (890-5565-29), DS-H06 (890-5565-30), DS-H06 (890-5565-32), DS-I08 (890-5565-33), DS-I08 (890-5565-34), DS-I07 (890-5565-36), DS-I07 (890-5565-38), DS-I06 (890-5565-39), DS-I06 (890-5565-40), DS-I06 (890-5565-41), DS-I05 (890-5565-42), DS-I05 (890-5565-43), DS-I04 (890-5565-45), DS-I04 (890-5565-46), DS-I03 (890-5565-48), DS-I03 (890-5565-49), DS-J07 (890-5565-51), (890-5565-A-24-E MS) and (890-5565-A-24-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-66223/31), (CCV 880-66223/47) and (CCV 880-66223/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-66310 and analytical batch 880-66223 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-66312 and analytical batch 880-66221 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: DS-J07 (890-5565-53), DS-J04 (890-5565-60) and DS-B09 (890-5565-69). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-66221/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-66308 and analytical batch 880-66228 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: DS-E09 (890-5565-12). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-66228/20), (CCV 880-66228/31) and (CCV 880-66228/47). Evidence of matrix interferences is not obvious.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-66240 and analytical batch 880-66300 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-A08

Lab Sample ID: 890-5565-1

Date Collected: 11/02/23 08:50

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:26	11/07/23 14:32	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:26	11/07/23 14:32	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:26	11/07/23 14:32	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/06/23 11:26	11/07/23 14:32	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:26	11/07/23 14:32	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/06/23 11:26	11/07/23 14:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	11/06/23 11:26	11/07/23 14:32	1
1,4-Difluorobenzene (Surr)	79		70 - 130	11/06/23 11:26	11/07/23 14:32	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/07/23 14:32	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			11/07/23 01:39	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		11/06/23 15:54	11/07/23 01:39	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		11/06/23 15:54	11/07/23 01:39	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		11/06/23 15:54	11/07/23 01:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	11/06/23 15:54	11/07/23 01:39	1
o-Terphenyl	114		70 - 130	11/06/23 15:54	11/07/23 01:39	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	266		5.01		mg/Kg			11/06/23 17:02	1

Client Sample ID: DS-A08

Lab Sample ID: 890-5565-3

Date Collected: 11/02/23 08:54

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 11:48	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 11:48	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 11:48	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:26	11/07/23 11:48	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 11:48	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:26	11/07/23 11:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130	11/06/23 11:26	11/07/23 11:48	1

Eurofins Carlsbad

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-A08

Lab Sample ID: 890-5565-3

Date Collected: 11/02/23 08:54

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	76		70 - 130	11/06/23 11:26	11/07/23 11:48	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 11:48	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/07/23 01:59	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/06/23 15:54	11/07/23 01:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/06/23 15:54	11/07/23 01:59	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/06/23 15:54	11/07/23 01:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130				11/06/23 15:54	11/07/23 01:59	1
o-Terphenyl	117		70 - 130				11/06/23 15:54	11/07/23 01:59	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	314		5.04		mg/Kg			11/06/23 17:09	1

Client Sample ID: DS-B08

Lab Sample ID: 890-5565-4

Date Collected: 11/02/23 08:56

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:26	11/07/23 12:08	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:26	11/07/23 12:08	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:26	11/07/23 12:08	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		11/06/23 11:26	11/07/23 12:08	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:26	11/07/23 12:08	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		11/06/23 11:26	11/07/23 12:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	11/06/23 11:26	11/07/23 12:08	1
1,4-Difluorobenzene (Surr)	72		70 - 130	11/06/23 11:26	11/07/23 12:08	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			11/07/23 12:08	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			11/07/23 02:20	1

Eurofins Carlsbad

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-B08

Lab Sample ID: 890-5565-4

Date Collected: 11/02/23 08:56

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		11/06/23 15:54	11/07/23 02:20	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		11/06/23 15:54	11/07/23 02:20	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		11/06/23 15:54	11/07/23 02:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				11/06/23 15:54	11/07/23 02:20	1
o-Terphenyl	121		70 - 130				11/06/23 15:54	11/07/23 02:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8340		101		mg/Kg			11/06/23 17:16	20

Client Sample ID: DS-B08

Lab Sample ID: 890-5565-6

Date Collected: 11/02/23 09:00

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 12:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 12:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 12:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 12:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 12:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 12:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130				11/06/23 11:26	11/07/23 12:29	1
1,4-Difluorobenzene (Surr)	78		70 - 130				11/06/23 11:26	11/07/23 12:29	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 12:29	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/07/23 02:41	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		11/06/23 15:54	11/07/23 02:41	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/06/23 15:54	11/07/23 02:41	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/06/23 15:54	11/07/23 02:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130				11/06/23 15:54	11/07/23 02:41	1
o-Terphenyl	114		70 - 130				11/06/23 15:54	11/07/23 02:41	1

Eurofins Carlsbad

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-B08

Lab Sample ID: 890-5565-6

Date Collected: 11/02/23 09:00

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1670		25.0		mg/Kg			11/06/23 17:22	5

Client Sample ID: DS-B09

Lab Sample ID: 890-5565-7

Date Collected: 11/02/23 09:02

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 12:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 12:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 12:50	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/06/23 11:26	11/07/23 12:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 12:50	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/06/23 11:26	11/07/23 12:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130				11/06/23 11:26	11/07/23 12:50	1
1,4-Difluorobenzene (Surr)	92		70 - 130				11/06/23 11:26	11/07/23 12:50	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 12:50	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 03:01	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 03:01	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 03:01	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 03:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130				11/06/23 15:54	11/07/23 03:01	1
o-Terphenyl	114		70 - 130				11/06/23 15:54	11/07/23 03:01	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3310		25.3		mg/Kg			11/06/23 17:29	5

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-C09

Lab Sample ID: 890-5565-8

Date Collected: 11/02/23 09:04

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 13:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 13:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 13:10	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/06/23 11:26	11/07/23 13:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 13:10	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/06/23 11:26	11/07/23 13:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	11/06/23 11:26	11/07/23 13:10	1
1,4-Difluorobenzene (Surr)	87		70 - 130	11/06/23 11:26	11/07/23 13:10	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 13:10	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			11/07/23 03:22	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		11/06/23 15:54	11/07/23 03:22	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		11/06/23 15:54	11/07/23 03:22	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		11/06/23 15:54	11/07/23 03:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130	11/06/23 15:54	11/07/23 03:22	1
o-Terphenyl	113		70 - 130	11/06/23 15:54	11/07/23 03:22	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	951		24.9		mg/Kg			11/06/23 17:49	5

Client Sample ID: DS-D09

Lab Sample ID: 890-5565-9

Date Collected: 11/02/23 09:10

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 13:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 13:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 13:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:26	11/07/23 13:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 13:31	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:26	11/07/23 13:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130	11/06/23 11:26	11/07/23 13:31	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-D09

Lab Sample ID: 890-5565-9

Date Collected: 11/02/23 09:10

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	98		70 - 130	11/06/23 11:26	11/07/23 13:31	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 13:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 03:43	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 03:43	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 03:43	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 03:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	11/06/23 15:54	11/07/23 03:43	1
o-Terphenyl	124		70 - 130	11/06/23 15:54	11/07/23 03:43	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2720		24.9		mg/Kg			11/06/23 17:55	5

Client Sample ID: DS-E09

Lab Sample ID: 890-5565-10

Date Collected: 11/02/23 09:16

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 13:51	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 13:51	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 13:51	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:26	11/07/23 13:51	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 13:51	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:26	11/07/23 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130	11/06/23 11:26	11/07/23 13:51	1
1,4-Difluorobenzene (Surr)	96		70 - 130	11/06/23 11:26	11/07/23 13:51	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 13:51	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/07/23 04:04	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-E09

Lab Sample ID: 890-5565-10

Date Collected: 11/02/23 09:16

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/06/23 15:54	11/07/23 04:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/06/23 15:54	11/07/23 04:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/06/23 15:54	11/07/23 04:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				11/06/23 15:54	11/07/23 04:04	1
o-Terphenyl	119		70 - 130				11/06/23 15:54	11/07/23 04:04	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4380		50.3		mg/Kg			11/06/23 18:15	10

Client Sample ID: DS-E09

Lab Sample ID: 890-5565-12

Date Collected: 11/02/23 09:24

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 14:12	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 14:12	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 14:12	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 14:12	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 14:12	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 14:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130				11/06/23 11:26	11/07/23 14:12	1
1,4-Difluorobenzene (Surr)	75		70 - 130				11/06/23 11:26	11/07/23 14:12	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 14:12	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/07/23 04:46	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/06/23 15:54	11/07/23 04:46	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/06/23 15:54	11/07/23 04:46	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/06/23 15:54	11/07/23 04:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130				11/06/23 15:54	11/07/23 04:46	1
o-Terphenyl	138	S1+	70 - 130				11/06/23 15:54	11/07/23 04:46	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-E09

Lab Sample ID: 890-5565-12

Date Collected: 11/02/23 09:24

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	349		5.04		mg/Kg			11/06/23 18:22	1

Client Sample ID: DS-F09

Lab Sample ID: 890-5565-13

Date Collected: 11/02/23 09:26

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:26	11/07/23 15:56	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:26	11/07/23 15:56	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:26	11/07/23 15:56	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/06/23 11:26	11/07/23 15:56	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:26	11/07/23 15:56	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/06/23 11:26	11/07/23 15:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130				11/06/23 11:26	11/07/23 15:56	1
1,4-Difluorobenzene (Surr)	78		70 - 130				11/06/23 11:26	11/07/23 15:56	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/07/23 15:56	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			11/07/23 05:06	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		11/06/23 15:54	11/07/23 05:06	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		11/06/23 15:54	11/07/23 05:06	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		11/06/23 15:54	11/07/23 05:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				11/06/23 15:54	11/07/23 05:06	1
o-Terphenyl	120		70 - 130				11/06/23 15:54	11/07/23 05:06	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4550		49.6		mg/Kg			11/06/23 18:28	10

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-F09

Lab Sample ID: 890-5565-14

Date Collected: 11/02/23 09:28

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 16:16	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 16:16	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 16:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 16:16	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 16:16	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 16:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130	11/06/23 11:26	11/07/23 16:16	1
1,4-Difluorobenzene (Surr)	95		70 - 130	11/06/23 11:26	11/07/23 16:16	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 16:16	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 05:27	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 05:27	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 05:27	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 05:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	11/06/23 15:54	11/07/23 05:27	1
o-Terphenyl	122		70 - 130	11/06/23 15:54	11/07/23 05:27	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	416		5.05		mg/Kg			11/06/23 18:35	1

Client Sample ID: DS-G09

Lab Sample ID: 890-5565-15

Date Collected: 11/02/23 09:50

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 16:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 16:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 16:37	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/06/23 11:26	11/07/23 16:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 16:37	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/06/23 11:26	11/07/23 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130	11/06/23 11:26	11/07/23 16:37	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-G09

Lab Sample ID: 890-5565-15

Date Collected: 11/02/23 09:50

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	92		70 - 130	11/06/23 11:26	11/07/23 16:37	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 16:37	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			11/07/23 05:48	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		11/06/23 15:54	11/07/23 05:48	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		11/06/23 15:54	11/07/23 05:48	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		11/06/23 15:54	11/07/23 05:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130				11/06/23 15:54	11/07/23 05:48	1
o-Terphenyl	126		70 - 130				11/06/23 15:54	11/07/23 05:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1730		25.1		mg/Kg			11/06/23 18:41	5

Client Sample ID: DS-G09

Lab Sample ID: 890-5565-17

Date Collected: 11/02/23 09:58

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 16:57	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 16:57	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 16:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 16:57	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 16:57	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130	11/06/23 11:26	11/07/23 16:57	1
1,4-Difluorobenzene (Surr)	93		70 - 130	11/06/23 11:26	11/07/23 16:57	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 16:57	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/07/23 06:09	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-G09

Lab Sample ID: 890-5565-17

Date Collected: 11/02/23 09:58

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/06/23 15:54	11/07/23 06:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/06/23 15:54	11/07/23 06:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/06/23 15:54	11/07/23 06:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130				11/06/23 15:54	11/07/23 06:09	1
o-Terphenyl	123		70 - 130				11/06/23 15:54	11/07/23 06:09	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	148		5.03		mg/Kg			11/06/23 18:48	1

Client Sample ID: DS-G08

Lab Sample ID: 890-5565-18

Date Collected: 11/02/23 10:10

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 17:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 17:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 17:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 17:18	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:26	11/07/23 17:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:26	11/07/23 17:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130				11/06/23 11:26	11/07/23 17:18	1
1,4-Difluorobenzene (Surr)	77		70 - 130				11/06/23 11:26	11/07/23 17:18	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 17:18	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/07/23 06:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		11/06/23 15:54	11/07/23 06:33	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/06/23 15:54	11/07/23 06:33	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/06/23 15:54	11/07/23 06:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130				11/06/23 15:54	11/07/23 06:33	1
o-Terphenyl	108		70 - 130				11/06/23 15:54	11/07/23 06:33	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-G08

Lab Sample ID: 890-5565-18

Date Collected: 11/02/23 10:10

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	853		4.95		mg/Kg			11/06/23 18:55	1

Client Sample ID: DS-G08

Lab Sample ID: 890-5565-20

Date Collected: 11/02/23 10:16

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 17:38	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 17:38	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 17:38	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:26	11/07/23 17:38	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:26	11/07/23 17:38	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:26	11/07/23 17:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130				11/06/23 11:26	11/07/23 17:38	1
1,4-Difluorobenzene (Surr)	67	S1-	70 - 130				11/06/23 11:26	11/07/23 17:38	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 17:38	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/07/23 06:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/06/23 15:54	11/07/23 06:58	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/06/23 15:54	11/07/23 06:58	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/06/23 15:54	11/07/23 06:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130				11/06/23 15:54	11/07/23 06:58	1
o-Terphenyl	122		70 - 130				11/06/23 15:54	11/07/23 06:58	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1780		25.2		mg/Kg			11/06/23 23:38	5

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-G07

Lab Sample ID: 890-5565-21

Date Collected: 11/02/23 10:20

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 12:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 12:32	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 12:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 12:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 12:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 12:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	11/06/23 11:29	11/07/23 12:32	1
1,4-Difluorobenzene (Surr)	101		70 - 130	11/06/23 11:29	11/07/23 12:32	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 12:32	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			11/07/23 07:23	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/06/23 15:54	11/07/23 07:23	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		11/06/23 15:54	11/07/23 07:23	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/06/23 15:54	11/07/23 07:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	11/06/23 15:54	11/07/23 07:23	1
o-Terphenyl	118		70 - 130	11/06/23 15:54	11/07/23 07:23	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6590		49.9		mg/Kg			11/06/23 12:38	10

Client Sample ID: DS-G07

Lab Sample ID: 890-5565-22

Date Collected: 11/02/23 10:24

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 12:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 12:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 12:53	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/06/23 11:29	11/07/23 12:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 12:53	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/06/23 11:29	11/07/23 12:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	11/06/23 11:29	11/07/23 12:53	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-G07

Lab Sample ID: 890-5565-22

Date Collected: 11/02/23 10:24

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	108		70 - 130	11/06/23 11:29	11/07/23 12:53	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 12:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			11/07/23 07:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		11/06/23 15:54	11/07/23 07:47	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		11/06/23 15:54	11/07/23 07:47	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		11/06/23 15:54	11/07/23 07:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	92		70 - 130				11/06/23 15:54	11/07/23 07:47	1
o-Terphenyl	111		70 - 130				11/06/23 15:54	11/07/23 07:47	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1920		24.9		mg/Kg			11/06/23 12:53	5

Client Sample ID: DS-G07

Lab Sample ID: 890-5565-23

Date Collected: 11/02/23 10:28

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 13:13	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 13:13	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 13:13	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:29	11/07/23 13:13	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 13:13	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:29	11/07/23 13:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	11/06/23 11:29	11/07/23 13:13	1
1,4-Difluorobenzene (Surr)	113		70 - 130	11/06/23 11:29	11/07/23 13:13	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 13:13	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 08:10	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-G07

Lab Sample ID: 890-5565-23

Date Collected: 11/02/23 10:28

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 08:10	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 08:10	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 15:54	11/07/23 08:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130				11/06/23 15:54	11/07/23 08:10	1
o-Terphenyl	125		70 - 130				11/06/23 15:54	11/07/23 08:10	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500		24.9		mg/Kg			11/06/23 12:59	5

Client Sample ID: DS-H08

Lab Sample ID: 890-5565-24

Date Collected: 11/02/23 10:32

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 13:34	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 13:34	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 13:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 13:34	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 13:34	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 13:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130				11/06/23 11:29	11/07/23 13:34	1
1,4-Difluorobenzene (Surr)	117		70 - 130				11/06/23 11:29	11/07/23 13:34	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 13:34	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/06/23 23:50	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/06/23 16:15	11/06/23 23:50	1
Diesel Range Organics (Over C10-C28)	<49.9	U F1	49.9		mg/Kg		11/06/23 16:15	11/06/23 23:50	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/06/23 16:15	11/06/23 23:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	160	S1+	70 - 130				11/06/23 16:15	11/06/23 23:50	1
o-Terphenyl	148	S1+	70 - 130				11/06/23 16:15	11/06/23 23:50	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-H08

Lab Sample ID: 890-5565-24

Date Collected: 11/02/23 10:32

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1530		25.1		mg/Kg			11/06/23 13:04	5

Client Sample ID: DS-H08

Lab Sample ID: 890-5565-26

Date Collected: 11/02/23 10:36

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:29	11/07/23 13:54	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:29	11/07/23 13:54	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:29	11/07/23 13:54	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/06/23 11:29	11/07/23 13:54	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:29	11/07/23 13:54	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/06/23 11:29	11/07/23 13:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130				11/06/23 11:29	11/07/23 13:54	1
1,4-Difluorobenzene (Surr)	112		70 - 130				11/06/23 11:29	11/07/23 13:54	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/07/23 13:54	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 00:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 16:15	11/07/23 00:54	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 16:15	11/07/23 00:54	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 16:15	11/07/23 00:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	158	S1+	70 - 130				11/06/23 16:15	11/07/23 00:54	1
o-Terphenyl	144	S1+	70 - 130				11/06/23 16:15	11/07/23 00:54	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	377		5.00		mg/Kg			11/06/23 13:25	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-H07

Lab Sample ID: 890-5565-27

Date Collected: 11/02/23 10:40

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 14:15	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 14:15	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 14:15	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 14:15	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 14:15	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 14:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	11/06/23 11:29	11/07/23 14:15	1
1,4-Difluorobenzene (Surr)	109		70 - 130	11/06/23 11:29	11/07/23 14:15	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 14:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	52.4		49.7		mg/Kg			11/07/23 01:15	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 01:15	1
Diesel Range Organics (Over C10-C28)	52.4		49.7		mg/Kg		11/06/23 16:15	11/07/23 01:15	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 01:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	143	S1+	70 - 130	11/06/23 16:15	11/07/23 01:15	1
o-Terphenyl	134	S1+	70 - 130	11/06/23 16:15	11/07/23 01:15	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1980		25.1		mg/Kg			11/06/23 13:30	5

Client Sample ID: DS-H07

Lab Sample ID: 890-5565-29

Date Collected: 11/02/23 10:54

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 14:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 14:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 14:35	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/06/23 11:29	11/07/23 14:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 14:35	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/06/23 11:29	11/07/23 14:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	11/06/23 11:29	11/07/23 14:35	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-H07

Lab Sample ID: 890-5565-29

Date Collected: 11/02/23 10:54

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	110		70 - 130	11/06/23 11:29	11/07/23 14:35	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 14:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/07/23 01:36	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/06/23 16:15	11/07/23 01:36	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/06/23 16:15	11/07/23 01:36	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/06/23 16:15	11/07/23 01:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	154	S1+	70 - 130				11/06/23 16:15	11/07/23 01:36	1
o-Terphenyl	143	S1+	70 - 130				11/06/23 16:15	11/07/23 01:36	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3160		24.8		mg/Kg			11/06/23 13:40	5

Client Sample ID: DS-H06

Lab Sample ID: 890-5565-30

Date Collected: 11/02/23 11:00

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 14:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 14:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 14:56	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/06/23 11:29	11/07/23 14:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 14:56	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/06/23 11:29	11/07/23 14:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	11/06/23 11:29	11/07/23 14:56	1
1,4-Difluorobenzene (Surr)	112		70 - 130	11/06/23 11:29	11/07/23 14:56	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/07/23 14:56	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	218		49.8		mg/Kg			11/07/23 01:57	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-H06

Lab Sample ID: 890-5565-30

Date Collected: 11/02/23 11:00

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		11/06/23 16:15	11/07/23 01:57	1
Diesel Range Organics (Over C10-C28)	218		49.8		mg/Kg		11/06/23 16:15	11/07/23 01:57	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/06/23 16:15	11/07/23 01:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	154	S1+	70 - 130				11/06/23 16:15	11/07/23 01:57	1
o-Terphenyl	139	S1+	70 - 130				11/06/23 16:15	11/07/23 01:57	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2480		25.0		mg/Kg			11/06/23 13:46	5

Client Sample ID: DS-H06

Lab Sample ID: 890-5565-32

Date Collected: 11/02/23 11:18

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 15:16	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 15:16	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 15:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 15:16	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 15:16	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 15:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130				11/06/23 11:29	11/07/23 15:16	1
1,4-Difluorobenzene (Surr)	113		70 - 130				11/06/23 11:29	11/07/23 15:16	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 15:16	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			11/07/23 02:19	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 02:19	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 02:19	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 02:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	160	S1+	70 - 130				11/06/23 16:15	11/07/23 02:19	1
o-Terphenyl	148	S1+	70 - 130				11/06/23 16:15	11/07/23 02:19	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-H06

Lab Sample ID: 890-5565-32

Date Collected: 11/02/23 11:18

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1560		24.8		mg/Kg			11/06/23 14:06	5

Client Sample ID: DS-I08

Lab Sample ID: 890-5565-33

Date Collected: 11/02/23 11:22

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 15:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 15:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 15:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 15:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 15:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 15:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130				11/06/23 11:29	11/07/23 15:36	1
1,4-Difluorobenzene (Surr)	113		70 - 130				11/06/23 11:29	11/07/23 15:36	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 15:36	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			11/07/23 02:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 02:40	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 02:40	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 02:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	145	S1+	70 - 130				11/06/23 16:15	11/07/23 02:40	1
o-Terphenyl	134	S1+	70 - 130				11/06/23 16:15	11/07/23 02:40	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3060		25.2		mg/Kg			11/06/23 14:12	5

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I08

Lab Sample ID: 890-5565-34

Date Collected: 11/02/23 11:36

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 17:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 17:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 17:27	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/06/23 11:29	11/07/23 17:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 17:27	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/06/23 11:29	11/07/23 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130	11/06/23 11:29	11/07/23 17:27	1
1,4-Difluorobenzene (Surr)	100		70 - 130	11/06/23 11:29	11/07/23 17:27	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 17:27	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 03:02	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 16:15	11/07/23 03:02	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 16:15	11/07/23 03:02	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 16:15	11/07/23 03:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	154	S1+	70 - 130	11/06/23 16:15	11/07/23 03:02	1
o-Terphenyl	141	S1+	70 - 130	11/06/23 16:15	11/07/23 03:02	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600		25.0		mg/Kg			11/06/23 14:27	5

Client Sample ID: DS-I07

Lab Sample ID: 890-5565-36

Date Collected: 11/02/23 11:50

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 17:47	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 17:47	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 17:47	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:29	11/07/23 17:47	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 17:47	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:29	11/07/23 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	11/06/23 11:29	11/07/23 17:47	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I07

Lab Sample ID: 890-5565-36

Date Collected: 11/02/23 11:50

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	116		70 - 130	11/06/23 11:29	11/07/23 17:47	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 17:47	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			11/07/23 03:23	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 03:23	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 03:23	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 03:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	150	S1+	70 - 130				11/06/23 16:15	11/07/23 03:23	1
o-Terphenyl	139	S1+	70 - 130				11/06/23 16:15	11/07/23 03:23	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	283		4.97		mg/Kg			11/06/23 14:38	1

Client Sample ID: DS-I07

Lab Sample ID: 890-5565-38

Date Collected: 11/02/23 12:15

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:29	11/07/23 18:08	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:29	11/07/23 18:08	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:29	11/07/23 18:08	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		11/06/23 11:29	11/07/23 18:08	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:29	11/07/23 18:08	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		11/06/23 11:29	11/07/23 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	11/06/23 11:29	11/07/23 18:08	1
1,4-Difluorobenzene (Surr)	114		70 - 130	11/06/23 11:29	11/07/23 18:08	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			11/07/23 18:08	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/07/23 03:44	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I07

Lab Sample ID: 890-5565-38

Date Collected: 11/02/23 12:15

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		11/06/23 16:15	11/07/23 03:44	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/06/23 16:15	11/07/23 03:44	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/06/23 16:15	11/07/23 03:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	147	S1+	70 - 130				11/06/23 16:15	11/07/23 03:44	1
o-Terphenyl	137	S1+	70 - 130				11/06/23 16:15	11/07/23 03:44	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2060		25.2		mg/Kg			11/06/23 14:48	5

Client Sample ID: DS-I06

Lab Sample ID: 890-5565-39

Date Collected: 11/02/23 12:20

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 18:28	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 18:28	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 18:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 18:28	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 18:28	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 18:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130				11/06/23 11:29	11/07/23 18:28	1
1,4-Difluorobenzene (Surr)	100		70 - 130				11/06/23 11:29	11/07/23 18:28	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 18:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/07/23 04:26	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/06/23 16:15	11/07/23 04:26	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/06/23 16:15	11/07/23 04:26	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/06/23 16:15	11/07/23 04:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	150	S1+	70 - 130				11/06/23 16:15	11/07/23 04:26	1
o-Terphenyl	140	S1+	70 - 130				11/06/23 16:15	11/07/23 04:26	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I06

Lab Sample ID: 890-5565-39

Date Collected: 11/02/23 12:20

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1510		25.0		mg/Kg			11/06/23 14:53	5

Client Sample ID: DS-I06

Lab Sample ID: 890-5565-40

Date Collected: 11/02/23 12:30

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 18:49	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 18:49	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 18:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 18:49	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 18:49	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 18:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130				11/06/23 11:29	11/07/23 18:49	1
1,4-Difluorobenzene (Surr)	124		70 - 130				11/06/23 11:29	11/07/23 18:49	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 18:49	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	414		50.3		mg/Kg			11/07/23 04:48	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 04:48	1
Diesel Range Organics (Over C10-C28)	414		50.3		mg/Kg		11/06/23 16:15	11/07/23 04:48	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 04:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	160	S1+	70 - 130				11/06/23 16:15	11/07/23 04:48	1
o-Terphenyl	143	S1+	70 - 130				11/06/23 16:15	11/07/23 04:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9200		99.8		mg/Kg			11/06/23 14:59	20

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I06

Lab Sample ID: 890-5565-41

Date Collected: 11/02/23 12:38

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/06/23 22:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/06/23 22:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/06/23 22:15	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/06/23 11:30	11/06/23 22:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/06/23 22:15	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/06/23 11:30	11/06/23 22:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	11/06/23 11:30	11/06/23 22:15	1
1,4-Difluorobenzene (Surr)	96		70 - 130	11/06/23 11:30	11/06/23 22:15	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/06/23 22:15	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			11/07/23 05:09	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		11/06/23 16:15	11/07/23 05:09	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		11/06/23 16:15	11/07/23 05:09	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		11/06/23 16:15	11/07/23 05:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130	11/06/23 16:15	11/07/23 05:09	1
o-Terphenyl	130		70 - 130	11/06/23 16:15	11/07/23 05:09	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3710		25.2		mg/Kg			11/06/23 15:00	5

Client Sample ID: DS-I05

Lab Sample ID: 890-5565-42

Date Collected: 11/02/23 12:45

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 19:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 19:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 19:09	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/06/23 11:29	11/07/23 19:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 19:09	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/06/23 11:29	11/07/23 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	11/06/23 11:29	11/07/23 19:09	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I05

Lab Sample ID: 890-5565-42

Date Collected: 11/02/23 12:45

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	120		70 - 130	11/06/23 11:29	11/07/23 19:09	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 19:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			11/07/23 05:30	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		11/06/23 16:15	11/07/23 05:30	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		11/06/23 16:15	11/07/23 05:30	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		11/06/23 16:15	11/07/23 05:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	165	S1+	70 - 130				11/06/23 16:15	11/07/23 05:30	1
o-Terphenyl	154	S1+	70 - 130				11/06/23 16:15	11/07/23 05:30	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2060		24.9		mg/Kg			11/06/23 15:17	5

Client Sample ID: DS-I05

Lab Sample ID: 890-5565-43

Date Collected: 11/02/23 12:50

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 19:29	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 19:29	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 19:29	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:29	11/07/23 19:29	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 19:29	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:29	11/07/23 19:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	11/06/23 11:29	11/07/23 19:29	1
1,4-Difluorobenzene (Surr)	120		70 - 130	11/06/23 11:29	11/07/23 19:29	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 19:29	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	70.0		49.7		mg/Kg			11/07/23 05:52	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I05

Lab Sample ID: 890-5565-43

Date Collected: 11/02/23 12:50

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 05:52	1
Diesel Range Organics (Over C10-C28)	70.0		49.7		mg/Kg		11/06/23 16:15	11/07/23 05:52	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 05:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	146	S1+	70 - 130				11/06/23 16:15	11/07/23 05:52	1
o-Terphenyl	133	S1+	70 - 130				11/06/23 16:15	11/07/23 05:52	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4170		25.2		mg/Kg			11/06/23 15:23	5

Client Sample ID: DS-I04

Lab Sample ID: 890-5565-45

Date Collected: 11/02/23 13:00

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 19:50	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 19:50	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 19:50	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:29	11/07/23 19:50	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:29	11/07/23 19:50	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:29	11/07/23 19:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130				11/06/23 11:29	11/07/23 19:50	1
1,4-Difluorobenzene (Surr)	115		70 - 130				11/06/23 11:29	11/07/23 19:50	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 19:50	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			11/07/23 06:13	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 06:13	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 06:13	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		11/06/23 16:15	11/07/23 06:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	149	S1+	70 - 130				11/06/23 16:15	11/07/23 06:13	1
o-Terphenyl	139	S1+	70 - 130				11/06/23 16:15	11/07/23 06:13	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I04

Lab Sample ID: 890-5565-45

Date Collected: 11/02/23 13:00

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1990		24.8		mg/Kg			11/06/23 15:34	5

Client Sample ID: DS-I04

Lab Sample ID: 890-5565-46

Date Collected: 11/02/23 13:15

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 20:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 20:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 20:10	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/06/23 11:29	11/07/23 20:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 20:10	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/06/23 11:29	11/07/23 20:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130				11/06/23 11:29	11/07/23 20:10	1
1,4-Difluorobenzene (Surr)	112		70 - 130				11/06/23 11:29	11/07/23 20:10	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/07/23 20:10	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	1110		50.3		mg/Kg			11/07/23 06:35	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 06:35	1
Diesel Range Organics (Over C10-C28)	1110		50.3		mg/Kg		11/06/23 16:15	11/07/23 06:35	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 06:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	143	S1+	70 - 130				11/06/23 16:15	11/07/23 06:35	1
o-Terphenyl	126		70 - 130				11/06/23 16:15	11/07/23 06:35	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15700		100		mg/Kg			11/06/23 15:51	20

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I03

Lab Sample ID: 890-5565-48

Date Collected: 11/02/23 13:39

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 20:31	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 20:31	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 20:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 20:31	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:29	11/07/23 20:31	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:29	11/07/23 20:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	11/06/23 11:29	11/07/23 20:31	1
1,4-Difluorobenzene (Surr)	110		70 - 130	11/06/23 11:29	11/07/23 20:31	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 20:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 06:58	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 16:15	11/07/23 06:58	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 16:15	11/07/23 06:58	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 16:15	11/07/23 06:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	141	S1+	70 - 130	11/06/23 16:15	11/07/23 06:58	1
o-Terphenyl	130		70 - 130	11/06/23 16:15	11/07/23 06:58	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1720		25.1		mg/Kg			11/06/23 16:03	5

Client Sample ID: DS-I03

Lab Sample ID: 890-5565-49

Date Collected: 11/02/23 13:40

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/06/23 22:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/06/23 22:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/06/23 22:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:30	11/06/23 22:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/06/23 22:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:30	11/06/23 22:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130	11/06/23 11:30	11/06/23 22:36	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I03

Lab Sample ID: 890-5565-49

Date Collected: 11/02/23 13:40

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	85		70 - 130	11/06/23 11:30	11/06/23 22:36	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/06/23 22:36	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			11/07/23 07:20	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 07:20	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 07:20	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/06/23 16:15	11/07/23 07:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	140	S1+	70 - 130	11/06/23 16:15	11/07/23 07:20	1
o-Terphenyl	131	S1+	70 - 130	11/06/23 16:15	11/07/23 07:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	397		5.03		mg/Kg			11/06/23 16:08	1

Client Sample ID: DS-J07

Lab Sample ID: 890-5565-51

Date Collected: 11/02/23 13:58

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:30	11/06/23 22:56	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:30	11/06/23 22:56	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:30	11/06/23 22:56	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/06/23 11:30	11/06/23 22:56	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/06/23 11:30	11/06/23 22:56	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/06/23 11:30	11/06/23 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130	11/06/23 11:30	11/06/23 22:56	1
1,4-Difluorobenzene (Surr)	89		70 - 130	11/06/23 11:30	11/06/23 22:56	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/06/23 22:56	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			11/07/23 07:42	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J07

Lab Sample ID: 890-5565-51

Date Collected: 11/02/23 13:58

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		11/06/23 16:15	11/07/23 07:42	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		11/06/23 16:15	11/07/23 07:42	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		11/06/23 16:15	11/07/23 07:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	138	S1+	70 - 130				11/06/23 16:15	11/07/23 07:42	1
o-Terphenyl	127		70 - 130				11/06/23 16:15	11/07/23 07:42	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	422	F1	5.04		mg/Kg			11/06/23 16:20	1

Client Sample ID: DS-J07

Lab Sample ID: 890-5565-52

Date Collected: 11/02/23 14:08

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.8

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:30	11/06/23 23:17	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:30	11/06/23 23:17	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:30	11/06/23 23:17	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:30	11/06/23 23:17	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:30	11/06/23 23:17	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:30	11/06/23 23:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130				11/06/23 11:30	11/06/23 23:17	1
1,4-Difluorobenzene (Surr)	72		70 - 130				11/06/23 11:30	11/06/23 23:17	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/06/23 23:17	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	2950		50.2		mg/Kg			11/07/23 07:42	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		11/06/23 16:19	11/07/23 07:42	1
Diesel Range Organics (Over C10-C28)	2710		50.2		mg/Kg		11/06/23 16:19	11/07/23 07:42	1
Oil Range Organics (Over C28-C36)	236		50.2		mg/Kg		11/06/23 16:19	11/07/23 07:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130				11/06/23 16:19	11/07/23 07:42	1
o-Terphenyl	119		70 - 130				11/06/23 16:19	11/07/23 07:42	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J07

Lab Sample ID: 890-5565-52

Date Collected: 11/02/23 14:08

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.8

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3530		24.8		mg/Kg			11/06/23 16:36	5

Client Sample ID: DS-J07

Lab Sample ID: 890-5565-53

Date Collected: 11/02/23 14:28

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:30	11/06/23 23:37	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:30	11/06/23 23:37	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:30	11/06/23 23:37	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		11/06/23 11:30	11/06/23 23:37	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/06/23 11:30	11/06/23 23:37	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		11/06/23 11:30	11/06/23 23:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130				11/06/23 11:30	11/06/23 23:37	1
1,4-Difluorobenzene (Surr)	64	S1-	70 - 130				11/06/23 11:30	11/06/23 23:37	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			11/06/23 23:37	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			11/06/23 23:50	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		11/06/23 16:19	11/06/23 23:50	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		11/06/23 16:19	11/06/23 23:50	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		11/06/23 16:19	11/06/23 23:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	144	S1+	70 - 130				11/06/23 16:19	11/06/23 23:50	1
o-Terphenyl	152	S1+	70 - 130				11/06/23 16:19	11/06/23 23:50	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	256		5.01		mg/Kg			11/06/23 16:42	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J06

Lab Sample ID: 890-5565-54

Date Collected: 11/02/23 14:38

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/06/23 23:58	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/06/23 23:58	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/06/23 23:58	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:30	11/06/23 23:58	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/06/23 23:58	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:30	11/06/23 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	11/06/23 11:30	11/06/23 23:58	1
1,4-Difluorobenzene (Surr)	55	S1-	70 - 130	11/06/23 11:30	11/06/23 23:58	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/06/23 23:58	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	62.5		49.9		mg/Kg			11/07/23 00:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/06/23 16:19	11/07/23 00:54	1
Diesel Range Organics (Over C10-C28)	62.5		49.9		mg/Kg		11/06/23 16:19	11/07/23 00:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/06/23 16:19	11/07/23 00:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130	11/06/23 16:19	11/07/23 00:54	1
o-Terphenyl	126		70 - 130	11/06/23 16:19	11/07/23 00:54	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6300		50.1		mg/Kg			11/06/23 16:59	10

Client Sample ID: DS-J06

Lab Sample ID: 890-5565-55

Date Collected: 11/02/23 14:48

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/07/23 00:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/07/23 00:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/07/23 00:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:30	11/07/23 00:18	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/07/23 00:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:30	11/07/23 00:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	11/06/23 11:30	11/07/23 00:18	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J06

Lab Sample ID: 890-5565-55

Date Collected: 11/02/23 14:48

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	77		70 - 130	11/06/23 11:30	11/07/23 00:18	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 00:18	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 01:15	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 16:19	11/07/23 01:15	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 16:19	11/07/23 01:15	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 16:19	11/07/23 01:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130				11/06/23 16:19	11/07/23 01:15	1
o-Terphenyl	126		70 - 130				11/06/23 16:19	11/07/23 01:15	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1210		25.0		mg/Kg			11/06/23 17:05	5

Client Sample ID: DS-J05

Lab Sample ID: 890-5565-57

Date Collected: 11/02/23 15:48

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/07/23 00:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/07/23 00:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/07/23 00:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/06/23 11:30	11/07/23 00:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/07/23 00:38	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/06/23 11:30	11/07/23 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130	11/06/23 11:30	11/07/23 00:38	1
1,4-Difluorobenzene (Surr)	90		70 - 130	11/06/23 11:30	11/07/23 00:38	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 00:38	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 01:36	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J05

Lab Sample ID: 890-5565-57

Date Collected: 11/02/23 15:48

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 16:19	11/07/23 01:36	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 16:19	11/07/23 01:36	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 16:19	11/07/23 01:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130				11/06/23 16:19	11/07/23 01:36	1
o-Terphenyl	120		70 - 130				11/06/23 16:19	11/07/23 01:36	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3530		25.2		mg/Kg			11/06/23 17:16	5

Client Sample ID: DS-J05

Lab Sample ID: 890-5565-58

Date Collected: 11/02/23 15:54

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:30	11/07/23 00:59	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:30	11/07/23 00:59	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:30	11/07/23 00:59	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/06/23 11:30	11/07/23 00:59	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/06/23 11:30	11/07/23 00:59	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/06/23 11:30	11/07/23 00:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130				11/06/23 11:30	11/07/23 00:59	1
1,4-Difluorobenzene (Surr)	52	S1-	70 - 130				11/06/23 11:30	11/07/23 00:59	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 00:59	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/07/23 01:57	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/06/23 16:19	11/07/23 01:57	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/06/23 16:19	11/07/23 01:57	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/06/23 16:19	11/07/23 01:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	126		70 - 130				11/06/23 16:19	11/07/23 01:57	1
o-Terphenyl	127		70 - 130				11/06/23 16:19	11/07/23 01:57	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J05

Lab Sample ID: 890-5565-58

Date Collected: 11/02/23 15:54

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5980		50.4		mg/Kg			11/06/23 17:22	10

Client Sample ID: DS-J04

Lab Sample ID: 890-5565-59

Date Collected: 11/02/23 16:08

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/07/23 01:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/07/23 01:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/07/23 01:19	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/06/23 11:30	11/07/23 01:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/07/23 01:19	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/06/23 11:30	11/07/23 01:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130	11/06/23 11:30	11/07/23 01:19	1
1,4-Difluorobenzene (Surr)	74		70 - 130	11/06/23 11:30	11/07/23 01:19	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/07/23 01:19	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/07/23 02:19	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		11/06/23 16:19	11/07/23 02:19	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/06/23 16:19	11/07/23 02:19	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/06/23 16:19	11/07/23 02:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130	11/06/23 16:19	11/07/23 02:19	1
o-Terphenyl	121		70 - 130	11/06/23 16:19	11/07/23 02:19	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2640		24.9		mg/Kg			11/06/23 17:27	5

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J04

Lab Sample ID: 890-5565-60

Date Collected: 11/02/23 16:28

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/07/23 02:41	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/07/23 02:41	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/07/23 02:41	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/06/23 11:30	11/07/23 02:41	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/06/23 11:30	11/07/23 02:41	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/06/23 11:30	11/07/23 02:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	11/06/23 11:30	11/07/23 02:41	1
1,4-Difluorobenzene (Surr)	59	S1-	70 - 130	11/06/23 11:30	11/07/23 02:41	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 02:41	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/07/23 02:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/06/23 16:19	11/07/23 02:40	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/06/23 16:19	11/07/23 02:40	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/06/23 16:19	11/07/23 02:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	133	S1+	70 - 130	11/06/23 16:19	11/07/23 02:40	1
o-Terphenyl	135	S1+	70 - 130	11/06/23 16:19	11/07/23 02:40	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14100		100		mg/Kg			11/06/23 17:33	20

Client Sample ID: DS-J03

Lab Sample ID: 890-5565-62

Date Collected: 11/02/23 16:46

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 18:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 18:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 18:43	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/04/23 17:22	11/06/23 18:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 18:43	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/04/23 17:22	11/06/23 18:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	11/04/23 17:22	11/06/23 18:43	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J03

Lab Sample ID: 890-5565-62

Date Collected: 11/02/23 16:46

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	109		70 - 130	11/04/23 17:22	11/06/23 18:43	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/06/23 18:43	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			11/07/23 03:02	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		11/06/23 16:19	11/07/23 03:02	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		11/06/23 16:19	11/07/23 03:02	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		11/06/23 16:19	11/07/23 03:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130				11/06/23 16:19	11/07/23 03:02	1
o-Terphenyl	121		70 - 130				11/06/23 16:19	11/07/23 03:02	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1840		25.0		mg/Kg			11/06/23 23:58	5

Client Sample ID: DS-J03

Lab Sample ID: 890-5565-63

Date Collected: 11/02/23 16:54

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/04/23 17:22	11/06/23 19:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/04/23 17:22	11/06/23 19:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/04/23 17:22	11/06/23 19:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/04/23 17:22	11/06/23 19:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/04/23 17:22	11/06/23 19:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/04/23 17:22	11/06/23 19:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	11/04/23 17:22	11/06/23 19:03	1
1,4-Difluorobenzene (Surr)	111		70 - 130	11/04/23 17:22	11/06/23 19:03	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/06/23 19:03	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	73.4		50.4		mg/Kg			11/07/23 03:23	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J03

Lab Sample ID: 890-5565-63

Date Collected: 11/02/23 16:54

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		11/06/23 16:19	11/07/23 03:23	1
Diesel Range Organics (Over C10-C28)	73.4		50.4		mg/Kg		11/06/23 16:19	11/07/23 03:23	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		11/06/23 16:19	11/07/23 03:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	117		70 - 130				11/06/23 16:19	11/07/23 03:23	1
o-Terphenyl	120		70 - 130				11/06/23 16:19	11/07/23 03:23	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3100		25.3		mg/Kg			11/07/23 00:05	5

Client Sample ID: DS-J02

Lab Sample ID: 890-5565-65

Date Collected: 11/02/23 17:02

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/04/23 17:22	11/06/23 19:44	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/04/23 17:22	11/06/23 19:44	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/04/23 17:22	11/06/23 19:44	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/04/23 17:22	11/06/23 19:44	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/04/23 17:22	11/06/23 19:44	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/04/23 17:22	11/06/23 19:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130				11/04/23 17:22	11/06/23 19:44	1
1,4-Difluorobenzene (Surr)	114		70 - 130				11/04/23 17:22	11/06/23 19:44	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/06/23 19:44	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/07/23 03:44	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/06/23 16:19	11/07/23 03:44	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/06/23 16:19	11/07/23 03:44	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/06/23 16:19	11/07/23 03:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130				11/06/23 16:19	11/07/23 03:44	1
o-Terphenyl	123		70 - 130				11/06/23 16:19	11/07/23 03:44	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J02

Lab Sample ID: 890-5565-65

Date Collected: 11/02/23 17:02

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: .5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1480		25.1		mg/Kg			11/07/23 00:11	5

Client Sample ID: DS-J02

Lab Sample ID: 890-5565-66

Date Collected: 11/02/23 17:09

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 20:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 20:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 20:05	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/04/23 17:22	11/06/23 20:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 20:05	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/04/23 17:22	11/06/23 20:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130				11/04/23 17:22	11/06/23 20:05	1
1,4-Difluorobenzene (Surr)	109		70 - 130				11/04/23 17:22	11/06/23 20:05	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/06/23 20:05	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	82.1		49.9		mg/Kg			11/07/23 04:26	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/06/23 16:19	11/07/23 04:26	1
Diesel Range Organics (Over C10-C28)	82.1		49.9		mg/Kg		11/06/23 16:19	11/07/23 04:26	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/06/23 16:19	11/07/23 04:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130				11/06/23 16:19	11/07/23 04:26	1
o-Terphenyl	120		70 - 130				11/06/23 16:19	11/07/23 04:26	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10700		101		mg/Kg			11/07/23 00:18	20

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-B09

Lab Sample ID: 890-5565-69

Date Collected: 11/02/23 09:06

Matrix: Solid

Date Received: 11/03/23 13:04

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 19:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 19:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 19:00	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/06/23 11:26	11/07/23 19:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 19:00	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/06/23 11:26	11/07/23 19:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	11/06/23 11:26	11/07/23 19:00	1
1,4-Difluorobenzene (Surr)	91		70 - 130	11/06/23 11:26	11/07/23 19:00	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/07/23 19:00	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/07/23 04:48	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/06/23 16:19	11/07/23 04:48	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/06/23 16:19	11/07/23 04:48	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/06/23 16:19	11/07/23 04:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	130		70 - 130	11/06/23 16:19	11/07/23 04:48	1
o-Terphenyl	137	S1+	70 - 130	11/06/23 16:19	11/07/23 04:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1620		25.2		mg/Kg			11/07/23 00:38	5

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Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Method: 8021B - Volatile Organic Compounds (GC)**Matrix: Solid****Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
890-5565-1	DS-A08	91	79
890-5565-1 MS	DS-A08	105	93
890-5565-1 MSD	DS-A08	118	119
890-5565-3	DS-A08	90	76
890-5565-4	DS-B08	91	72
890-5565-6	DS-B08	89	78
890-5565-7	DS-B09	87	92
890-5565-8	DS-C09	91	87
890-5565-9	DS-D09	79	98
890-5565-10	DS-E09	79	96
890-5565-12	DS-E09	91	75
890-5565-13	DS-F09	79	78
890-5565-14	DS-F09	80	95
890-5565-15	DS-G09	79	92
890-5565-17	DS-G09	81	93
890-5565-18	DS-G08	83	77
890-5565-20	DS-G08	85	67 S1-
890-5565-21	DS-G07	84	101
890-5565-21 MS	DS-G07	102	110
890-5565-21 MSD	DS-G07	97	104
890-5565-22	DS-G07	97	108
890-5565-23	DS-G07	101	113
890-5565-24	DS-H08	105	117
890-5565-26	DS-H08	98	112
890-5565-27	DS-H07	103	109
890-5565-29	DS-H07	95	110
890-5565-30	DS-H06	93	112
890-5565-32	DS-H06	99	113
890-5565-33	DS-I08	96	113
890-5565-34	DS-I08	81	100
890-5565-36	DS-I07	102	116
890-5565-38	DS-I07	96	114
890-5565-39	DS-I06	92	100
890-5565-40	DS-I06	105	124
890-5565-41	DS-I06	88	96
890-5565-41 MS	DS-I06	102	110
890-5565-41 MSD	DS-I06	114	116
890-5565-42	DS-I05	94	120
890-5565-43	DS-I05	100	120
890-5565-45	DS-I04	97	115
890-5565-46	DS-I04	100	112
890-5565-48	DS-I03	96	110
890-5565-49	DS-I03	66 S1-	85
890-5565-51	DS-J07	83	89
890-5565-52	DS-J07	84	72
890-5565-53	DS-J07	84	64 S1-
890-5565-54	DS-J06	91	55 S1-
890-5565-55	DS-J06	95	77
890-5565-57	DS-J05	77	90

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Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-5565-58	DS-J05	93	52 S1-
890-5565-59	DS-J04	81	74
890-5565-60	DS-J04	89	59 S1-
890-5565-62	DS-J03	97	109
890-5565-63	DS-J03	98	111
890-5565-65	DS-J02	101	114
890-5565-66	DS-J02	108	109
890-5565-69	DS-B09	85	91
LCS 880-66217/1-A	Lab Control Sample	87	108
LCS 880-66261/1-A	Lab Control Sample	110	114
LCS 880-66262/1-A	Lab Control Sample	104	107
LCS 880-66263/1-A	Lab Control Sample	114	122
LCSD 880-66217/2-A	Lab Control Sample Dup	93	108
LCSD 880-66261/2-A	Lab Control Sample Dup	111	99
LCSD 880-66262/2-A	Lab Control Sample Dup	101	108
LCSD 880-66263/2-A	Lab Control Sample Dup	103	114
MB 880-66217/5-A	Method Blank	106	149 S1+
MB 880-66248/5-A	Method Blank	71	100
MB 880-66261/5-A	Method Blank	69 S1-	99
MB 880-66262/5-A	Method Blank	116	152 S1+
MB 880-66263/5-A	Method Blank	73	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5565-1	DS-A08	93	114
890-5565-3	DS-A08	94	117
890-5565-4	DS-B08	100	121
890-5565-6	DS-B08	93	114
890-5565-7	DS-B09	92	114
890-5565-8	DS-C09	92	113
890-5565-9	DS-D09	101	124
890-5565-10	DS-E09	97	119
890-5565-12	DS-E09	113	138 S1+
890-5565-13	DS-F09	97	120
890-5565-14	DS-F09	98	122
890-5565-15	DS-G09	104	126
890-5565-17	DS-G09	99	123
890-5565-18	DS-G08	90	108
890-5565-20	DS-G08	103	122
890-5565-21	DS-G07	101	118
890-5565-22	DS-G07	92	111
890-5565-23	DS-G07	98	125
890-5565-24	DS-H08	160 S1+	148 S1+

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Surrogate Summary

Client: Terracon Consulting Eng & Scientists

Job ID: 890-5565-1

Project/Site: Muskegon

SDG: KH237044

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5565-24 MS	DS-H08	154 S1+	128
890-5565-24 MSD	DS-H08	160 S1+	131 S1+
890-5565-26	DS-H08	158 S1+	144 S1+
890-5565-27	DS-H07	143 S1+	134 S1+
890-5565-29	DS-H07	154 S1+	143 S1+
890-5565-30	DS-H06	154 S1+	139 S1+
890-5565-32	DS-H06	160 S1+	148 S1+
890-5565-33	DS-I08	145 S1+	134 S1+
890-5565-34	DS-I08	154 S1+	141 S1+
890-5565-36	DS-I07	150 S1+	139 S1+
890-5565-38	DS-I07	147 S1+	137 S1+
890-5565-39	DS-I06	150 S1+	140 S1+
890-5565-40	DS-I06	160 S1+	143 S1+
890-5565-41	DS-I06	142 S1+	130
890-5565-42	DS-I05	165 S1+	154 S1+
890-5565-43	DS-I05	146 S1+	133 S1+
890-5565-45	DS-I04	149 S1+	139 S1+
890-5565-46	DS-I04	143 S1+	126
890-5565-48	DS-I03	141 S1+	130
890-5565-49	DS-I03	140 S1+	131 S1+
890-5565-51	DS-J07	138 S1+	127
890-5565-52	DS-J07	119	119
890-5565-53	DS-J07	144 S1+	152 S1+
890-5565-53 MS	DS-J07	129	119
890-5565-53 MSD	DS-J07	128	117
890-5565-54	DS-J06	127	126
890-5565-55	DS-J06	124	126
890-5565-57	DS-J05	118	120
890-5565-58	DS-J05	126	127
890-5565-59	DS-J04	118	121
890-5565-60	DS-J04	133 S1+	135 S1+
890-5565-62	DS-J03	120	121
890-5565-63	DS-J03	117	120
890-5565-65	DS-J02	120	123
890-5565-66	DS-J02	118	120
890-5565-69	DS-B09	130	137 S1+
LCS 880-66308/2-A	Lab Control Sample	98	114
LCS 880-66310/2-A	Lab Control Sample	102	106
LCS 880-66312/2-A	Lab Control Sample	99	109
LCSD 880-66308/3-A	Lab Control Sample Dup	99	116
LCSD 880-66310/3-A	Lab Control Sample Dup	100	103
LCSD 880-66312/3-A	Lab Control Sample Dup	89	93
MB 880-66308/1-A	Method Blank	152 S1+	197 S1+
MB 880-66310/1-A	Method Blank	262 S1+	244 S1+
MB 880-66312/1-A	Method Blank	244 S1+	261 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-66217/5-A

Matrix: Solid

Analysis Batch: 66220

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66217

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 11:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 11:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 11:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/04/23 17:22	11/06/23 11:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/04/23 17:22	11/06/23 11:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/04/23 17:22	11/06/23 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	11/04/23 17:22	11/06/23 11:37	1
1,4-Difluorobenzene (Surr)	149	S1+	70 - 130	11/04/23 17:22	11/06/23 11:37	1

Lab Sample ID: LCS 880-66217/1-A

Matrix: Solid

Analysis Batch: 66220

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 66217

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08978		mg/Kg		90	70 - 130
Toluene	0.100	0.08009		mg/Kg		80	70 - 130
Ethylbenzene	0.100	0.07424		mg/Kg		74	70 - 130
m-Xylene & p-Xylene	0.200	0.1692		mg/Kg		85	70 - 130
o-Xylene	0.100	0.08224		mg/Kg		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: LCSD 880-66217/2-A

Matrix: Solid

Analysis Batch: 66220

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 66217

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1015		mg/Kg		101	70 - 130	12	35
Toluene	0.100	0.08627		mg/Kg		86	70 - 130	7	35
Ethylbenzene	0.100	0.08339		mg/Kg		83	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.1882		mg/Kg		94	70 - 130	11	35
o-Xylene	0.100	0.09193		mg/Kg		92	70 - 130	11	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: MB 880-66248/5-A

Matrix: Solid

Analysis Batch: 66230

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66248

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 09:43	11/06/23 11:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 09:43	11/06/23 11:14	1

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Lab Sample ID: MB 880-66248/5-A

Matrix: Solid

Analysis Batch: 66230

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66248

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 09:43	11/06/23 11:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/06/23 09:43	11/06/23 11:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 09:43	11/06/23 11:14	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/06/23 09:43	11/06/23 11:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	11/06/23 09:43	11/06/23 11:14	1
1,4-Difluorobenzene (Surr)	100		70 - 130	11/06/23 09:43	11/06/23 11:14	1

Lab Sample ID: MB 880-66261/5-A

Matrix: Solid

Analysis Batch: 66350

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66261

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 11:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 11:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 11:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/06/23 11:26	11/07/23 11:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:26	11/07/23 11:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/06/23 11:26	11/07/23 11:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130	11/06/23 11:26	11/07/23 11:06	1
1,4-Difluorobenzene (Surr)	99		70 - 130	11/06/23 11:26	11/07/23 11:06	1

Lab Sample ID: LCS 880-66261/1-A

Matrix: Solid

Analysis Batch: 66350

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 66261

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1281		mg/Kg		128	70 - 130
Toluene	0.100	0.1106		mg/Kg		111	70 - 130
Ethylbenzene	0.100	0.1100		mg/Kg		110	70 - 130
m-Xylene & p-Xylene	0.200	0.2373		mg/Kg		119	70 - 130
o-Xylene	0.100	0.1139		mg/Kg		114	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: LCSD 880-66261/2-A

Matrix: Solid

Analysis Batch: 66350

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 66261

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1137		mg/Kg		114	70 - 130	12	35
Toluene	0.100	0.1070		mg/Kg		107	70 - 130	3	35
Ethylbenzene	0.100	0.1028		mg/Kg		103	70 - 130	7	35

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Lab Sample ID: LCSD 880-66261/2-A

Matrix: Solid

Analysis Batch: 66350

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 66261

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Xylene & p-Xylene	0.200	0.2219		mg/Kg		111	70 - 130	7	35
o-Xylene	0.100	0.1056		mg/Kg		106	70 - 130	8	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	111		70 - 130						
1,4-Difluorobenzene (Surr)	99		70 - 130						

Lab Sample ID: 890-5565-1 MS

Matrix: Solid

Analysis Batch: 66350

Client Sample ID: DS-A08

Prep Type: Total/NA

Prep Batch: 66261

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0996	0.1135		mg/Kg		114	70 - 130		
Toluene	<0.00198	U	0.0996	0.1090		mg/Kg		109	70 - 130		
Ethylbenzene	<0.00198	U	0.0996	0.09994		mg/Kg		100	70 - 130		
m-Xylene & p-Xylene	<0.00396	U	0.199	0.2096		mg/Kg		105	70 - 130		
o-Xylene	<0.00198	U	0.0996	0.1001		mg/Kg		100	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
4-Bromofluorobenzene (Surr)	105		70 - 130								
1,4-Difluorobenzene (Surr)	93		70 - 130								

Lab Sample ID: 890-5565-1 MSD

Matrix: Solid

Analysis Batch: 66350

Client Sample ID: DS-A08

Prep Type: Total/NA

Prep Batch: 66261

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.100	0.1187		mg/Kg		118	70 - 130	5	35
Toluene	<0.00198	U	0.100	0.1089		mg/Kg		109	70 - 130	0	35
Ethylbenzene	<0.00198	U	0.100	0.1080		mg/Kg		108	70 - 130	8	35
m-Xylene & p-Xylene	<0.00396	U	0.200	0.2256		mg/Kg		113	70 - 130	7	35
o-Xylene	<0.00198	U	0.100	0.1073		mg/Kg		107	70 - 130	7	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	118		70 - 130								
1,4-Difluorobenzene (Surr)	119		70 - 130								

Lab Sample ID: MB 880-66262/5-A

Matrix: Solid

Analysis Batch: 66231

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66262

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 12:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 12:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 12:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/06/23 11:29	11/07/23 12:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:29	11/07/23 12:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/06/23 11:29	11/07/23 12:04	1

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	11/06/23 11:29	11/07/23 12:04	1
1,4-Difluorobenzene (Surr)	152	S1+	70 - 130	11/06/23 11:29	11/07/23 12:04	1

Lab Sample ID: LCS 880-66262/1-A

Matrix: Solid

Analysis Batch: 66231

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 66262

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1095		mg/Kg		110	70 - 130
Toluene	0.100	0.09182		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.09299		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	0.200	0.2126		mg/Kg		106	70 - 130
o-Xylene	0.100	0.1007		mg/Kg		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: LCSD 880-66262/2-A

Matrix: Solid

Analysis Batch: 66231

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 66262

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1212		mg/Kg		121	70 - 130	10	35
Toluene	0.100	0.09813		mg/Kg		98	70 - 130	7	35
Ethylbenzene	0.100	0.09417		mg/Kg		94	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2139		mg/Kg		107	70 - 130	1	35
o-Xylene	0.100	0.1029		mg/Kg		103	70 - 130	2	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-5565-21 MS

Matrix: Solid

Analysis Batch: 66231

Client Sample ID: DS-G07

Prep Type: Total/NA

Prep Batch: 66262

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0996	0.1171		mg/Kg		118	70 - 130
Toluene	<0.00199	U	0.0996	0.09292		mg/Kg		93	70 - 130
Ethylbenzene	<0.00199	U	0.0996	0.08823		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.199	0.2069		mg/Kg		104	70 - 130
o-Xylene	<0.00199	U	0.0996	0.09873		mg/Kg		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Lab Sample ID: 890-5565-21 MSD

Matrix: Solid

Analysis Batch: 66231

Client Sample ID: DS-G07

Prep Type: Total/NA

Prep Batch: 66262

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.1121		mg/Kg		113	70 - 130	4	35
Toluene	<0.00199	U	0.0996	0.08880		mg/Kg		89	70 - 130	5	35
Ethylbenzene	<0.00199	U	0.0996	0.08459		mg/Kg		85	70 - 130	4	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1902		mg/Kg		95	70 - 130	8	35
o-Xylene	<0.00199	U	0.0996	0.09047		mg/Kg		91	70 - 130	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: MB 880-66263/5-A

Matrix: Solid

Analysis Batch: 66230

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/06/23 21:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/06/23 21:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/06/23 21:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/06/23 11:30	11/06/23 21:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/06/23 11:30	11/06/23 21:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/06/23 11:30	11/06/23 21:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130	11/06/23 11:30	11/06/23 21:54	1
1,4-Difluorobenzene (Surr)	99		70 - 130	11/06/23 11:30	11/06/23 21:54	1

Lab Sample ID: LCS 880-66263/1-A

Matrix: Solid

Analysis Batch: 66230

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 66263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1031		mg/Kg		103	70 - 130
Toluene	0.100	0.09024		mg/Kg		90	70 - 130
Ethylbenzene	0.100	0.09038		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1990		mg/Kg		99	70 - 130
o-Xylene	0.100	0.09638		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	122		70 - 130

Lab Sample ID: LCSD 880-66263/2-A

Matrix: Solid

Analysis Batch: 66230

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 66263

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1072		mg/Kg		107	70 - 130	4	35
Toluene	0.100	0.09433		mg/Kg		94	70 - 130	4	35

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Lab Sample ID: LCSD 880-66263/2-A

Matrix: Solid

Analysis Batch: 66230

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 66263

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene	0.100	0.08535		mg/Kg		85	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1726		mg/Kg		86	70 - 130	14	35
o-Xylene	0.100	0.09307		mg/Kg		93	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 890-5565-41 MS

Matrix: Solid

Analysis Batch: 66230

Client Sample ID: DS-I06

Prep Type: Total/NA

Prep Batch: 66263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0996	0.09658		mg/Kg		97	70 - 130
Toluene	<0.00200	U	0.0996	0.09013		mg/Kg		90	70 - 130
Ethylbenzene	<0.00200	U	0.0996	0.07985		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1638		mg/Kg		82	70 - 130
o-Xylene	<0.00200	U	0.0996	0.07849		mg/Kg		79	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: 890-5565-41 MSD

Matrix: Solid

Analysis Batch: 66230

Client Sample ID: DS-I06

Prep Type: Total/NA

Prep Batch: 66263

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.09309		mg/Kg		94	70 - 130	4	35
Toluene	<0.00200	U	0.0994	0.08773		mg/Kg		88	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.0994	0.08314		mg/Kg		84	70 - 130	4	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1730		mg/Kg		87	70 - 130	5	35
o-Xylene	<0.00200	U	0.0994	0.08323		mg/Kg		84	70 - 130	6	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	116		70 - 130

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

Lab Sample ID: MB 880-66308/1-A

Matrix: Solid

Analysis Batch: 66228

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66308

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/06/23 15:54	11/06/23 23:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/06/23 15:54	11/06/23 23:15	1

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Lab Sample ID: MB 880-66308/1-A

Matrix: Solid

Analysis Batch: 66228

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66308

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/06/23 15:54	11/06/23 23:15	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	152	S1+	70 - 130				11/06/23 15:54	11/06/23 23:15	1
o-Terphenyl	197	S1+	70 - 130				11/06/23 15:54	11/06/23 23:15	1

Lab Sample ID: LCS 880-66308/2-A

Matrix: Solid

Analysis Batch: 66228

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 66308

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	920.9		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	955.0		mg/Kg		95	70 - 130		
Surrogate	%Recovery	LCS Qualifier	Limits						
1-Chlorooctane	98		70 - 130						
o-Terphenyl	114		70 - 130						

Lab Sample ID: LCSD 880-66308/3-A

Matrix: Solid

Analysis Batch: 66228

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 66308

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	904.0		mg/Kg		90	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	949.6		mg/Kg		95	70 - 130	1	20
Surrogate	%Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	99		70 - 130						
o-Terphenyl	116		70 - 130						

Lab Sample ID: MB 880-66310/1-A

Matrix: Solid

Analysis Batch: 66223

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66310

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/06/23 16:15	11/06/23 22:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/06/23 16:15	11/06/23 22:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/06/23 16:15	11/06/23 22:46	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	262	S1+	70 - 130				11/06/23 16:15	11/06/23 22:46	1
o-Terphenyl	244	S1+	70 - 130				11/06/23 16:15	11/06/23 22:46	1

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Lab Sample ID: LCS 880-66310/2-A

Matrix: Solid

Analysis Batch: 66223

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 66310

Analyte			Spike	LCS	LCS	Unit	D	%Rec	%Rec		
			Added	Result	Qualifier			Limits			
Gasoline Range Organics (GRO)-C6-C10			1000	917.8		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	924.4		mg/Kg		92	70 - 130		

Lab Sample ID: LCSD 880-66310/3-A

Matrix: Solid

Analysis Batch: 66223

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 66310

			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Analyte											
Gasoline Range Organics (GRO)-C6-C10			1000	874.0		mg/Kg		87	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	900.8		mg/Kg		90	70 - 130	3	20
										</	

Lab Sample ID: 890-5565-24 MS

Matrix: Solid

Analysis Batch: 66223

Client Sample ID: DS-H08

Prep Type: Total/NA

Prep Batch: 66310

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier			Limits	Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1010	927.4		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	1010	1410	F1	mg/Kg		137	70 - 130		
Surrogate	MS	MS									
	%Recovery	Qualifier	Limits								
1-Chlorooctane	154	S1+	70 - 130								
o-Terphenyl	128		70 - 130								

Lab Sample ID: 890-5565-24 MSD

Matrix: Solid

Analysis Batch: 66223

Client Sample ID: DS-H08

Prep Type: Total/NA

Prep Batch: 66310

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	1010	980.8		mg/Kg	-	95	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	1010	1451	F1	mg/Kg		141	70 - 130	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	160	S1+	70 - 130								

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Lab Sample ID: 890-5565-24 MSD
Matrix: Solid
Analysis Batch: 66223

Client Sample ID: DS-H08
Prep Type: Total/NA
Prep Batch: 66310

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	131	S1+	70 - 130

Lab Sample ID: MB 880-66312/1-A
Matrix: Solid
Analysis Batch: 66221

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66312

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/06/23 16:19	11/06/23 22:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/06/23 16:19	11/06/23 22:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/06/23 16:19	11/06/23 22:46	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac	
	%Recovery	Qualifier							
1-Chlorooctane	244	S1+	70 - 130			11/06/23 16:19	11/06/23 22:46	1	
o-Terphenyl	261	S1+	70 - 130			11/06/23 16:19	11/06/23 22:46	1	

Lab Sample ID: LCS 880-66312/2-A
Matrix: Solid
Analysis Batch: 66221

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	941.4		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	1000	897.6		mg/Kg		90	70 - 130
Surrogate	LCS LCS		Limits				
	%Recovery	Qualifier					
1-Chlorooctane	99		70 - 130				
<i>o</i> -Terphenyl	109		70 - 130				

Lab Sample ID: LCSD 880-66312/3-A
Matrix: Solid
Analysis Batch: 66221

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 66312

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	918.4		mg/Kg		92	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	850.0		mg/Kg		85	70 - 130	5	20
Surrogate	LCSD LCSD		Limits						
	%Recovery	Qualifier							
1-Chlorooctane	89		70 - 130						
<i>o</i> -Terphenyl	93		70 - 130						

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

Lab Sample ID: 890-5565-53 MS

Matrix: Solid

Analysis Batch: 66221

Client Sample ID: DS-J07

Prep Type: Total/NA

Prep Batch: 66312

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	1010	894.9		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	<49.7	U	1010	970.5		mg/Kg		93	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	129		70 - 130						
o-Terphenyl	119		70 - 130						

Lab Sample ID: 890-5565-53 MSD

Matrix: Solid

Analysis Batch: 66221

Client Sample ID: DS-J07

Prep Type: Total/NA

Prep Batch: 66312

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	<49.7	U	1010	894.5		mg/Kg		86	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.7	U	1010	969.5		mg/Kg		93	70 - 130	0	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	128		70 - 130								
o-Terphenyl	117		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-66239/1-A

Matrix: Solid

Analysis Batch: 66299

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/06/23 11:55	1

Lab Sample ID: LCS 880-66239/2-A

Matrix: Solid

Analysis Batch: 66299

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	251.9		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-66239/3-A

Matrix: Solid

Analysis Batch: 66299

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	253.6		mg/Kg		101	90 - 110	1	20

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-5565-21 MS

Matrix: Solid

Analysis Batch: 66299

Client Sample ID: DS-G07

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	6590		2500	8972		mg/Kg		96	90 - 110		

Lab Sample ID: 890-5565-21 MSD

Matrix: Solid

Analysis Batch: 66299

Client Sample ID: DS-G07

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	6590		2500	9029		mg/Kg		98	90 - 110	1	20

Lab Sample ID: 890-5565-32 MS

Matrix: Solid

Analysis Batch: 66299

Client Sample ID: DS-H06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1560		1240	2890		mg/Kg		108	90 - 110		

Lab Sample ID: 890-5565-32 MSD

Matrix: Solid

Analysis Batch: 66299

Client Sample ID: DS-H06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1560		1240	2892		mg/Kg		108	90 - 110	0	20

Lab Sample ID: MB 880-66240/1-A

Matrix: Solid

Analysis Batch: 66300

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/06/23 14:44	1

Lab Sample ID: LCS 880-66240/2-A

Matrix: Solid

Analysis Batch: 66300

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	250	253.7		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-66240/3-A

Matrix: Solid

Analysis Batch: 66300

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	249.4		mg/Kg		100	90 - 110	2	20

Lab Sample ID: 890-5565-41 MS

Matrix: Solid

Analysis Batch: 66300

Client Sample ID: DS-I06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3710		1260	5014		mg/Kg		104	90 - 110		

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-5565-41 MSD

Matrix: Solid

Analysis Batch: 66300

Client Sample ID: DS-I06

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3710		1260	5005		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-5565-51 MS

Matrix: Solid

Analysis Batch: 66300

Client Sample ID: DS-J07

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	422	F1	252	645.8	F1	mg/Kg		89	90 - 110		

Lab Sample ID: 890-5565-51 MSD

Matrix: Solid

Analysis Batch: 66300

Client Sample ID: DS-J07

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	422	F1	252	643.0	F1	mg/Kg		88	90 - 110	0	20

Lab Sample ID: MB 880-66245/1-A

Matrix: Solid

Analysis Batch: 66324

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/06/23 15:37	1

Lab Sample ID: LCS 880-66245/2-A

Matrix: Solid

Analysis Batch: 66324

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	250	246.3		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-66245/3-A

Matrix: Solid

Analysis Batch: 66324

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	247.3		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-5565-7 MS

Matrix: Solid

Analysis Batch: 66324

Client Sample ID: DS-B09

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3310		1260	4522		mg/Kg		96	90 - 110		

Lab Sample ID: 890-5565-7 MSD

Matrix: Solid

Analysis Batch: 66324

Client Sample ID: DS-B09

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3310		1260	4536		mg/Kg		97	90 - 110	0	20

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-66246/1-A Matrix: Solid Analysis Batch: 66352										Client Sample ID: Method Blank Prep Type: Soluble	
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	<5.00	U	5.00		mg/Kg			11/06/23 23:18	1		

Lab Sample ID: LCS 880-66246/2-A Matrix: Solid Analysis Batch: 66352										Client Sample ID: Lab Control Sample Prep Type: Soluble	
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	248.9		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-66246/3-A Matrix: Solid Analysis Batch: 66352										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	251.1		mg/Kg		100	90 - 110	1	20

Lab Sample ID: 890-5565-20 MS Matrix: Solid Analysis Batch: 66352										Client Sample ID: DS-G08 Prep Type: Soluble	
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1780		1260	2978		mg/Kg		95	90 - 110		

Lab Sample ID: 890-5565-20 MSD Matrix: Solid Analysis Batch: 66352										Client Sample ID: DS-G08 Prep Type: Soluble	
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1780		1260	2977		mg/Kg		95	90 - 110	0	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

GC VOA

Prep Batch: 66217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-62	DS-J03	Total/NA	Solid	5035	
890-5565-63	DS-J03	Total/NA	Solid	5035	
890-5565-65	DS-J02	Total/NA	Solid	5035	
890-5565-66	DS-J02	Total/NA	Solid	5035	
MB 880-66217/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-66217/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-66217/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 66220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-62	DS-J03	Total/NA	Solid	8021B	66217
890-5565-63	DS-J03	Total/NA	Solid	8021B	66217
890-5565-65	DS-J02	Total/NA	Solid	8021B	66217
890-5565-66	DS-J02	Total/NA	Solid	8021B	66217
MB 880-66217/5-A	Method Blank	Total/NA	Solid	8021B	66217
LCS 880-66217/1-A	Lab Control Sample	Total/NA	Solid	8021B	66217
LCSD 880-66217/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	66217

Analysis Batch: 66230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-41	DS-I06	Total/NA	Solid	8021B	66263
890-5565-49	DS-I03	Total/NA	Solid	8021B	66263
890-5565-51	DS-J07	Total/NA	Solid	8021B	66263
890-5565-52	DS-J07	Total/NA	Solid	8021B	66263
890-5565-53	DS-J07	Total/NA	Solid	8021B	66263
890-5565-54	DS-J06	Total/NA	Solid	8021B	66263
890-5565-55	DS-J06	Total/NA	Solid	8021B	66263
890-5565-57	DS-J05	Total/NA	Solid	8021B	66263
890-5565-58	DS-J05	Total/NA	Solid	8021B	66263
890-5565-59	DS-J04	Total/NA	Solid	8021B	66263
890-5565-60	DS-J04	Total/NA	Solid	8021B	66263
MB 880-66248/5-A	Method Blank	Total/NA	Solid	8021B	66248
MB 880-66263/5-A	Method Blank	Total/NA	Solid	8021B	66263
LCS 880-66263/1-A	Lab Control Sample	Total/NA	Solid	8021B	66263
LCSD 880-66263/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	66263
890-5565-41 MS	DS-I06	Total/NA	Solid	8021B	66263
890-5565-41 MSD	DS-I06	Total/NA	Solid	8021B	66263

Analysis Batch: 66231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-21	DS-G07	Total/NA	Solid	8021B	66262
890-5565-22	DS-G07	Total/NA	Solid	8021B	66262
890-5565-23	DS-G07	Total/NA	Solid	8021B	66262
890-5565-24	DS-H08	Total/NA	Solid	8021B	66262
890-5565-26	DS-H08	Total/NA	Solid	8021B	66262
890-5565-27	DS-H07	Total/NA	Solid	8021B	66262
890-5565-29	DS-H07	Total/NA	Solid	8021B	66262
890-5565-30	DS-H06	Total/NA	Solid	8021B	66262
890-5565-32	DS-H06	Total/NA	Solid	8021B	66262
890-5565-33	DS-I08	Total/NA	Solid	8021B	66262
890-5565-34	DS-I08	Total/NA	Solid	8021B	66262

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

GC VOA (Continued)

Analysis Batch: 66231 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-36	DS-I07	Total/NA	Solid	8021B	66262
890-5565-38	DS-I07	Total/NA	Solid	8021B	66262
890-5565-39	DS-I06	Total/NA	Solid	8021B	66262
890-5565-40	DS-I06	Total/NA	Solid	8021B	66262
890-5565-42	DS-I05	Total/NA	Solid	8021B	66262
890-5565-43	DS-I05	Total/NA	Solid	8021B	66262
890-5565-45	DS-I04	Total/NA	Solid	8021B	66262
890-5565-46	DS-I04	Total/NA	Solid	8021B	66262
890-5565-48	DS-I03	Total/NA	Solid	8021B	66262
MB 880-66262/5-A	Method Blank	Total/NA	Solid	8021B	66262
LCS 880-66262/1-A	Lab Control Sample	Total/NA	Solid	8021B	66262
LCSD 880-66262/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	66262
890-5565-21 MS	DS-G07	Total/NA	Solid	8021B	66262
890-5565-21 MSD	DS-G07	Total/NA	Solid	8021B	66262

Prep Batch: 66248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-66248/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 66261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-1	DS-A08	Total/NA	Solid	5035	
890-5565-3	DS-A08	Total/NA	Solid	5035	
890-5565-4	DS-B08	Total/NA	Solid	5035	
890-5565-6	DS-B08	Total/NA	Solid	5035	
890-5565-7	DS-B09	Total/NA	Solid	5035	
890-5565-8	DS-C09	Total/NA	Solid	5035	
890-5565-9	DS-D09	Total/NA	Solid	5035	
890-5565-10	DS-E09	Total/NA	Solid	5035	
890-5565-12	DS-E09	Total/NA	Solid	5035	
890-5565-13	DS-F09	Total/NA	Solid	5035	
890-5565-14	DS-F09	Total/NA	Solid	5035	
890-5565-15	DS-G09	Total/NA	Solid	5035	
890-5565-17	DS-G09	Total/NA	Solid	5035	
890-5565-18	DS-G08	Total/NA	Solid	5035	
890-5565-20	DS-G08	Total/NA	Solid	5035	
890-5565-69	DS-B09	Total/NA	Solid	5035	
MB 880-66261/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-66261/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-66261/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5565-1 MS	DS-A08	Total/NA	Solid	5035	
890-5565-1 MSD	DS-A08	Total/NA	Solid	5035	

Prep Batch: 66262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-21	DS-G07	Total/NA	Solid	5035	
890-5565-22	DS-G07	Total/NA	Solid	5035	
890-5565-23	DS-G07	Total/NA	Solid	5035	
890-5565-24	DS-H08	Total/NA	Solid	5035	
890-5565-26	DS-H08	Total/NA	Solid	5035	
890-5565-27	DS-H07	Total/NA	Solid	5035	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

GC VOA (Continued)

Prep Batch: 66262 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-29	DS-H07	Total/NA	Solid	5035	
890-5565-30	DS-H06	Total/NA	Solid	5035	
890-5565-32	DS-H06	Total/NA	Solid	5035	
890-5565-33	DS-I08	Total/NA	Solid	5035	
890-5565-34	DS-I08	Total/NA	Solid	5035	
890-5565-36	DS-I07	Total/NA	Solid	5035	
890-5565-38	DS-I07	Total/NA	Solid	5035	
890-5565-39	DS-I06	Total/NA	Solid	5035	
890-5565-40	DS-I06	Total/NA	Solid	5035	
890-5565-42	DS-I05	Total/NA	Solid	5035	
890-5565-43	DS-I05	Total/NA	Solid	5035	
890-5565-45	DS-I04	Total/NA	Solid	5035	
890-5565-46	DS-I04	Total/NA	Solid	5035	
890-5565-48	DS-I03	Total/NA	Solid	5035	
MB 880-66262/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-66262/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-66262/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5565-21 MS	DS-G07	Total/NA	Solid	5035	
890-5565-21 MSD	DS-G07	Total/NA	Solid	5035	

Prep Batch: 66263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-41	DS-I06	Total/NA	Solid	5035	
890-5565-49	DS-I03	Total/NA	Solid	5035	
890-5565-51	DS-J07	Total/NA	Solid	5035	
890-5565-52	DS-J07	Total/NA	Solid	5035	
890-5565-53	DS-J07	Total/NA	Solid	5035	
890-5565-54	DS-J06	Total/NA	Solid	5035	
890-5565-55	DS-J06	Total/NA	Solid	5035	
890-5565-57	DS-J05	Total/NA	Solid	5035	
890-5565-58	DS-J05	Total/NA	Solid	5035	
890-5565-59	DS-J04	Total/NA	Solid	5035	
890-5565-60	DS-J04	Total/NA	Solid	5035	
MB 880-66263/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-66263/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-66263/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5565-41 MS	DS-I06	Total/NA	Solid	5035	
890-5565-41 MSD	DS-I06	Total/NA	Solid	5035	

Analysis Batch: 66350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-1	DS-A08	Total/NA	Solid	8021B	66261
890-5565-3	DS-A08	Total/NA	Solid	8021B	66261
890-5565-4	DS-B08	Total/NA	Solid	8021B	66261
890-5565-6	DS-B08	Total/NA	Solid	8021B	66261
890-5565-7	DS-B09	Total/NA	Solid	8021B	66261
890-5565-8	DS-C09	Total/NA	Solid	8021B	66261
890-5565-9	DS-D09	Total/NA	Solid	8021B	66261
890-5565-10	DS-E09	Total/NA	Solid	8021B	66261
890-5565-12	DS-E09	Total/NA	Solid	8021B	66261
890-5565-13	DS-F09	Total/NA	Solid	8021B	66261

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

GC VOA (Continued)

Analysis Batch: 66350 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-14	DS-F09	Total/NA	Solid	8021B	66261
890-5565-15	DS-G09	Total/NA	Solid	8021B	66261
890-5565-17	DS-G09	Total/NA	Solid	8021B	66261
890-5565-18	DS-G08	Total/NA	Solid	8021B	66261
890-5565-20	DS-G08	Total/NA	Solid	8021B	66261
890-5565-69	DS-B09	Total/NA	Solid	8021B	66261
MB 880-66261/5-A	Method Blank	Total/NA	Solid	8021B	66261
LCS 880-66261/1-A	Lab Control Sample	Total/NA	Solid	8021B	66261
LCSD 880-66261/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	66261
890-5565-1 MS	DS-A08	Total/NA	Solid	8021B	66261
890-5565-1 MSD	DS-A08	Total/NA	Solid	8021B	66261

Analysis Batch: 66398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-1	DS-A08	Total/NA	Solid	Total BTEX	
890-5565-3	DS-A08	Total/NA	Solid	Total BTEX	
890-5565-4	DS-B08	Total/NA	Solid	Total BTEX	
890-5565-6	DS-B08	Total/NA	Solid	Total BTEX	
890-5565-7	DS-B09	Total/NA	Solid	Total BTEX	
890-5565-8	DS-C09	Total/NA	Solid	Total BTEX	
890-5565-9	DS-D09	Total/NA	Solid	Total BTEX	
890-5565-10	DS-E09	Total/NA	Solid	Total BTEX	
890-5565-12	DS-E09	Total/NA	Solid	Total BTEX	
890-5565-13	DS-F09	Total/NA	Solid	Total BTEX	
890-5565-14	DS-F09	Total/NA	Solid	Total BTEX	
890-5565-15	DS-G09	Total/NA	Solid	Total BTEX	
890-5565-17	DS-G09	Total/NA	Solid	Total BTEX	
890-5565-18	DS-G08	Total/NA	Solid	Total BTEX	
890-5565-20	DS-G08	Total/NA	Solid	Total BTEX	
890-5565-21	DS-G07	Total/NA	Solid	Total BTEX	
890-5565-22	DS-G07	Total/NA	Solid	Total BTEX	
890-5565-23	DS-G07	Total/NA	Solid	Total BTEX	
890-5565-24	DS-H08	Total/NA	Solid	Total BTEX	
890-5565-26	DS-H08	Total/NA	Solid	Total BTEX	
890-5565-27	DS-H07	Total/NA	Solid	Total BTEX	
890-5565-29	DS-H07	Total/NA	Solid	Total BTEX	
890-5565-30	DS-H06	Total/NA	Solid	Total BTEX	
890-5565-32	DS-H06	Total/NA	Solid	Total BTEX	
890-5565-33	DS-I08	Total/NA	Solid	Total BTEX	
890-5565-34	DS-I08	Total/NA	Solid	Total BTEX	
890-5565-36	DS-I07	Total/NA	Solid	Total BTEX	
890-5565-38	DS-I07	Total/NA	Solid	Total BTEX	
890-5565-39	DS-I06	Total/NA	Solid	Total BTEX	
890-5565-40	DS-I06	Total/NA	Solid	Total BTEX	
890-5565-41	DS-I06	Total/NA	Solid	Total BTEX	
890-5565-42	DS-I05	Total/NA	Solid	Total BTEX	
890-5565-43	DS-I05	Total/NA	Solid	Total BTEX	
890-5565-45	DS-I04	Total/NA	Solid	Total BTEX	
890-5565-46	DS-I04	Total/NA	Solid	Total BTEX	
890-5565-48	DS-I03	Total/NA	Solid	Total BTEX	
890-5565-49	DS-I03	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

GC VOA (Continued)

Analysis Batch: 66398 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-51	DS-J07	Total/NA	Solid	Total BTEX	
890-5565-52	DS-J07	Total/NA	Solid	Total BTEX	
890-5565-53	DS-J07	Total/NA	Solid	Total BTEX	
890-5565-54	DS-J06	Total/NA	Solid	Total BTEX	
890-5565-55	DS-J06	Total/NA	Solid	Total BTEX	
890-5565-57	DS-J05	Total/NA	Solid	Total BTEX	
890-5565-58	DS-J05	Total/NA	Solid	Total BTEX	
890-5565-59	DS-J04	Total/NA	Solid	Total BTEX	
890-5565-60	DS-J04	Total/NA	Solid	Total BTEX	
890-5565-62	DS-J03	Total/NA	Solid	Total BTEX	
890-5565-63	DS-J03	Total/NA	Solid	Total BTEX	
890-5565-65	DS-J02	Total/NA	Solid	Total BTEX	
890-5565-66	DS-J02	Total/NA	Solid	Total BTEX	
890-5565-69	DS-B09	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 66221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-52	DS-J07	Total/NA	Solid	8015B NM	66312
890-5565-53	DS-J07	Total/NA	Solid	8015B NM	66312
890-5565-54	DS-J06	Total/NA	Solid	8015B NM	66312
890-5565-55	DS-J06	Total/NA	Solid	8015B NM	66312
890-5565-57	DS-J05	Total/NA	Solid	8015B NM	66312
890-5565-58	DS-J05	Total/NA	Solid	8015B NM	66312
890-5565-59	DS-J04	Total/NA	Solid	8015B NM	66312
890-5565-60	DS-J04	Total/NA	Solid	8015B NM	66312
890-5565-62	DS-J03	Total/NA	Solid	8015B NM	66312
890-5565-63	DS-J03	Total/NA	Solid	8015B NM	66312
890-5565-65	DS-J02	Total/NA	Solid	8015B NM	66312
890-5565-66	DS-J02	Total/NA	Solid	8015B NM	66312
890-5565-69	DS-B09	Total/NA	Solid	8015B NM	66312
MB 880-66312/1-A	Method Blank	Total/NA	Solid	8015B NM	66312
LCS 880-66312/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	66312
LCSD 880-66312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	66312
890-5565-53 MS	DS-J07	Total/NA	Solid	8015B NM	66312
890-5565-53 MSD	DS-J07	Total/NA	Solid	8015B NM	66312

Analysis Batch: 66223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-24	DS-H08	Total/NA	Solid	8015B NM	66310
890-5565-26	DS-H08	Total/NA	Solid	8015B NM	66310
890-5565-27	DS-H07	Total/NA	Solid	8015B NM	66310
890-5565-29	DS-H07	Total/NA	Solid	8015B NM	66310
890-5565-30	DS-H06	Total/NA	Solid	8015B NM	66310
890-5565-32	DS-H06	Total/NA	Solid	8015B NM	66310
890-5565-33	DS-I08	Total/NA	Solid	8015B NM	66310
890-5565-34	DS-I08	Total/NA	Solid	8015B NM	66310
890-5565-36	DS-I07	Total/NA	Solid	8015B NM	66310
890-5565-38	DS-I07	Total/NA	Solid	8015B NM	66310
890-5565-39	DS-I06	Total/NA	Solid	8015B NM	66310

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

GC Semi VOA (Continued)

Analysis Batch: 66223 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-40	DS-I06	Total/NA	Solid	8015B NM	66310
890-5565-41	DS-I06	Total/NA	Solid	8015B NM	66310
890-5565-42	DS-I05	Total/NA	Solid	8015B NM	66310
890-5565-43	DS-I05	Total/NA	Solid	8015B NM	66310
890-5565-45	DS-I04	Total/NA	Solid	8015B NM	66310
890-5565-46	DS-I04	Total/NA	Solid	8015B NM	66310
890-5565-48	DS-I03	Total/NA	Solid	8015B NM	66310
890-5565-49	DS-I03	Total/NA	Solid	8015B NM	66310
890-5565-51	DS-J07	Total/NA	Solid	8015B NM	66310
MB 880-66310/1-A	Method Blank	Total/NA	Solid	8015B NM	66310
LCS 880-66310/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	66310
LCSD 880-66310/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	66310
890-5565-24 MS	DS-H08	Total/NA	Solid	8015B NM	66310
890-5565-24 MSD	DS-H08	Total/NA	Solid	8015B NM	66310

Analysis Batch: 66228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-1	DS-A08	Total/NA	Solid	8015B NM	66308
890-5565-3	DS-A08	Total/NA	Solid	8015B NM	66308
890-5565-4	DS-B08	Total/NA	Solid	8015B NM	66308
890-5565-6	DS-B08	Total/NA	Solid	8015B NM	66308
890-5565-7	DS-B09	Total/NA	Solid	8015B NM	66308
890-5565-8	DS-C09	Total/NA	Solid	8015B NM	66308
890-5565-9	DS-D09	Total/NA	Solid	8015B NM	66308
890-5565-10	DS-E09	Total/NA	Solid	8015B NM	66308
890-5565-12	DS-E09	Total/NA	Solid	8015B NM	66308
890-5565-13	DS-F09	Total/NA	Solid	8015B NM	66308
890-5565-14	DS-F09	Total/NA	Solid	8015B NM	66308
890-5565-15	DS-G09	Total/NA	Solid	8015B NM	66308
890-5565-17	DS-G09	Total/NA	Solid	8015B NM	66308
890-5565-18	DS-G08	Total/NA	Solid	8015B NM	66308
890-5565-20	DS-G08	Total/NA	Solid	8015B NM	66308
890-5565-21	DS-G07	Total/NA	Solid	8015B NM	66308
890-5565-22	DS-G07	Total/NA	Solid	8015B NM	66308
890-5565-23	DS-G07	Total/NA	Solid	8015B NM	66308
MB 880-66308/1-A	Method Blank	Total/NA	Solid	8015B NM	66308
LCS 880-66308/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	66308
LCSD 880-66308/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	66308

Prep Batch: 66308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-1	DS-A08	Total/NA	Solid	8015NM Prep	
890-5565-3	DS-A08	Total/NA	Solid	8015NM Prep	
890-5565-4	DS-B08	Total/NA	Solid	8015NM Prep	
890-5565-6	DS-B08	Total/NA	Solid	8015NM Prep	
890-5565-7	DS-B09	Total/NA	Solid	8015NM Prep	
890-5565-8	DS-C09	Total/NA	Solid	8015NM Prep	
890-5565-9	DS-D09	Total/NA	Solid	8015NM Prep	
890-5565-10	DS-E09	Total/NA	Solid	8015NM Prep	
890-5565-12	DS-E09	Total/NA	Solid	8015NM Prep	
890-5565-13	DS-F09	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

GC Semi VOA (Continued)

Prep Batch: 66308 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-14	DS-F09	Total/NA	Solid	8015NM Prep	
890-5565-15	DS-G09	Total/NA	Solid	8015NM Prep	
890-5565-17	DS-G09	Total/NA	Solid	8015NM Prep	
890-5565-18	DS-G08	Total/NA	Solid	8015NM Prep	
890-5565-20	DS-G08	Total/NA	Solid	8015NM Prep	
890-5565-21	DS-G07	Total/NA	Solid	8015NM Prep	
890-5565-22	DS-G07	Total/NA	Solid	8015NM Prep	
890-5565-23	DS-G07	Total/NA	Solid	8015NM Prep	
MB 880-66308/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-66308/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-66308/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 66310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-24	DS-H08	Total/NA	Solid	8015NM Prep	
890-5565-26	DS-H08	Total/NA	Solid	8015NM Prep	
890-5565-27	DS-H07	Total/NA	Solid	8015NM Prep	
890-5565-29	DS-H07	Total/NA	Solid	8015NM Prep	
890-5565-30	DS-H06	Total/NA	Solid	8015NM Prep	
890-5565-32	DS-H06	Total/NA	Solid	8015NM Prep	
890-5565-33	DS-I08	Total/NA	Solid	8015NM Prep	
890-5565-34	DS-I08	Total/NA	Solid	8015NM Prep	
890-5565-36	DS-I07	Total/NA	Solid	8015NM Prep	
890-5565-38	DS-I07	Total/NA	Solid	8015NM Prep	
890-5565-39	DS-I06	Total/NA	Solid	8015NM Prep	
890-5565-40	DS-I06	Total/NA	Solid	8015NM Prep	
890-5565-41	DS-I06	Total/NA	Solid	8015NM Prep	
890-5565-42	DS-I05	Total/NA	Solid	8015NM Prep	
890-5565-43	DS-I05	Total/NA	Solid	8015NM Prep	
890-5565-45	DS-I04	Total/NA	Solid	8015NM Prep	
890-5565-46	DS-I04	Total/NA	Solid	8015NM Prep	
890-5565-48	DS-I03	Total/NA	Solid	8015NM Prep	
890-5565-49	DS-I03	Total/NA	Solid	8015NM Prep	
890-5565-51	DS-J07	Total/NA	Solid	8015NM Prep	
MB 880-66310/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-66310/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-66310/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5565-24 MS	DS-H08	Total/NA	Solid	8015NM Prep	
890-5565-24 MSD	DS-H08	Total/NA	Solid	8015NM Prep	

Prep Batch: 66312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-52	DS-J07	Total/NA	Solid	8015NM Prep	
890-5565-53	DS-J07	Total/NA	Solid	8015NM Prep	
890-5565-54	DS-J06	Total/NA	Solid	8015NM Prep	
890-5565-55	DS-J06	Total/NA	Solid	8015NM Prep	
890-5565-57	DS-J05	Total/NA	Solid	8015NM Prep	
890-5565-58	DS-J05	Total/NA	Solid	8015NM Prep	
890-5565-59	DS-J04	Total/NA	Solid	8015NM Prep	
890-5565-60	DS-J04	Total/NA	Solid	8015NM Prep	
890-5565-62	DS-J03	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

GC Semi VOA (Continued)

Prep Batch: 66312 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-63	DS-J03	Total/NA	Solid	8015NM Prep	
890-5565-65	DS-J02	Total/NA	Solid	8015NM Prep	
890-5565-66	DS-J02	Total/NA	Solid	8015NM Prep	
890-5565-69	DS-B09	Total/NA	Solid	8015NM Prep	
MB 880-66312/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-66312/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-66312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5565-53 MS	DS-J07	Total/NA	Solid	8015NM Prep	
890-5565-53 MSD	DS-J07	Total/NA	Solid	8015NM Prep	

Analysis Batch: 66354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-1	DS-A08	Total/NA	Solid	8015 NM	
890-5565-3	DS-A08	Total/NA	Solid	8015 NM	
890-5565-4	DS-B08	Total/NA	Solid	8015 NM	
890-5565-6	DS-B08	Total/NA	Solid	8015 NM	
890-5565-7	DS-B09	Total/NA	Solid	8015 NM	
890-5565-8	DS-C09	Total/NA	Solid	8015 NM	
890-5565-9	DS-D09	Total/NA	Solid	8015 NM	
890-5565-10	DS-E09	Total/NA	Solid	8015 NM	
890-5565-12	DS-E09	Total/NA	Solid	8015 NM	
890-5565-13	DS-F09	Total/NA	Solid	8015 NM	
890-5565-14	DS-F09	Total/NA	Solid	8015 NM	
890-5565-15	DS-G09	Total/NA	Solid	8015 NM	
890-5565-17	DS-G09	Total/NA	Solid	8015 NM	
890-5565-18	DS-G08	Total/NA	Solid	8015 NM	
890-5565-20	DS-G08	Total/NA	Solid	8015 NM	
890-5565-21	DS-G07	Total/NA	Solid	8015 NM	
890-5565-22	DS-G07	Total/NA	Solid	8015 NM	
890-5565-23	DS-G07	Total/NA	Solid	8015 NM	
890-5565-24	DS-H08	Total/NA	Solid	8015 NM	
890-5565-26	DS-H08	Total/NA	Solid	8015 NM	
890-5565-27	DS-H07	Total/NA	Solid	8015 NM	
890-5565-29	DS-H07	Total/NA	Solid	8015 NM	
890-5565-30	DS-H06	Total/NA	Solid	8015 NM	
890-5565-32	DS-H06	Total/NA	Solid	8015 NM	
890-5565-33	DS-I08	Total/NA	Solid	8015 NM	
890-5565-34	DS-I08	Total/NA	Solid	8015 NM	
890-5565-36	DS-I07	Total/NA	Solid	8015 NM	
890-5565-38	DS-I07	Total/NA	Solid	8015 NM	
890-5565-39	DS-I06	Total/NA	Solid	8015 NM	
890-5565-40	DS-I06	Total/NA	Solid	8015 NM	
890-5565-41	DS-I06	Total/NA	Solid	8015 NM	
890-5565-42	DS-I05	Total/NA	Solid	8015 NM	
890-5565-43	DS-I05	Total/NA	Solid	8015 NM	
890-5565-45	DS-I04	Total/NA	Solid	8015 NM	
890-5565-46	DS-I04	Total/NA	Solid	8015 NM	
890-5565-48	DS-I03	Total/NA	Solid	8015 NM	
890-5565-49	DS-I03	Total/NA	Solid	8015 NM	
890-5565-51	DS-J07	Total/NA	Solid	8015 NM	
890-5565-52	DS-J07	Total/NA	Solid	8015 NM	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

GC Semi VOA (Continued)

Analysis Batch: 66354 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-53	DS-J07	Total/NA	Solid	8015 NM	
890-5565-54	DS-J06	Total/NA	Solid	8015 NM	
890-5565-55	DS-J06	Total/NA	Solid	8015 NM	
890-5565-57	DS-J05	Total/NA	Solid	8015 NM	
890-5565-58	DS-J05	Total/NA	Solid	8015 NM	
890-5565-59	DS-J04	Total/NA	Solid	8015 NM	
890-5565-60	DS-J04	Total/NA	Solid	8015 NM	
890-5565-62	DS-J03	Total/NA	Solid	8015 NM	
890-5565-63	DS-J03	Total/NA	Solid	8015 NM	
890-5565-65	DS-J02	Total/NA	Solid	8015 NM	
890-5565-66	DS-J02	Total/NA	Solid	8015 NM	
890-5565-69	DS-B09	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 66239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-21	DS-G07	Soluble	Solid	DI Leach	
890-5565-22	DS-G07	Soluble	Solid	DI Leach	
890-5565-23	DS-G07	Soluble	Solid	DI Leach	
890-5565-24	DS-H08	Soluble	Solid	DI Leach	
890-5565-26	DS-H08	Soluble	Solid	DI Leach	
890-5565-27	DS-H07	Soluble	Solid	DI Leach	
890-5565-29	DS-H07	Soluble	Solid	DI Leach	
890-5565-30	DS-H06	Soluble	Solid	DI Leach	
890-5565-32	DS-H06	Soluble	Solid	DI Leach	
890-5565-33	DS-I08	Soluble	Solid	DI Leach	
890-5565-34	DS-I08	Soluble	Solid	DI Leach	
890-5565-36	DS-I07	Soluble	Solid	DI Leach	
890-5565-38	DS-I07	Soluble	Solid	DI Leach	
890-5565-39	DS-I06	Soluble	Solid	DI Leach	
890-5565-40	DS-I06	Soluble	Solid	DI Leach	
MB 880-66239/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-66239/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-66239/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5565-21 MS	DS-G07	Soluble	Solid	DI Leach	
890-5565-21 MSD	DS-G07	Soluble	Solid	DI Leach	
890-5565-32 MS	DS-H06	Soluble	Solid	DI Leach	
890-5565-32 MSD	DS-H06	Soluble	Solid	DI Leach	

Leach Batch: 66240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-41	DS-I06	Soluble	Solid	DI Leach	
890-5565-42	DS-I05	Soluble	Solid	DI Leach	
890-5565-43	DS-I05	Soluble	Solid	DI Leach	
890-5565-45	DS-I04	Soluble	Solid	DI Leach	
890-5565-46	DS-I04	Soluble	Solid	DI Leach	
890-5565-48	DS-I03	Soluble	Solid	DI Leach	
890-5565-49	DS-I03	Soluble	Solid	DI Leach	
890-5565-51	DS-J07	Soluble	Solid	DI Leach	
890-5565-52	DS-J07	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

HPLC/IC (Continued)

Leach Batch: 66240 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-53	DS-J07	Soluble	Solid	DI Leach	
890-5565-54	DS-J06	Soluble	Solid	DI Leach	
890-5565-55	DS-J06	Soluble	Solid	DI Leach	
890-5565-57	DS-J05	Soluble	Solid	DI Leach	
890-5565-58	DS-J05	Soluble	Solid	DI Leach	
890-5565-59	DS-J04	Soluble	Solid	DI Leach	
890-5565-60	DS-J04	Soluble	Solid	DI Leach	
MB 880-66240/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-66240/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-66240/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5565-41 MS	DS-I06	Soluble	Solid	DI Leach	
890-5565-41 MSD	DS-I06	Soluble	Solid	DI Leach	
890-5565-51 MS	DS-J07	Soluble	Solid	DI Leach	
890-5565-51 MSD	DS-J07	Soluble	Solid	DI Leach	

Leach Batch: 66245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-1	DS-A08	Soluble	Solid	DI Leach	
890-5565-3	DS-A08	Soluble	Solid	DI Leach	
890-5565-4	DS-B08	Soluble	Solid	DI Leach	
890-5565-6	DS-B08	Soluble	Solid	DI Leach	
890-5565-7	DS-B09	Soluble	Solid	DI Leach	
890-5565-8	DS-C09	Soluble	Solid	DI Leach	
890-5565-9	DS-D09	Soluble	Solid	DI Leach	
890-5565-10	DS-E09	Soluble	Solid	DI Leach	
890-5565-12	DS-E09	Soluble	Solid	DI Leach	
890-5565-13	DS-F09	Soluble	Solid	DI Leach	
890-5565-14	DS-F09	Soluble	Solid	DI Leach	
890-5565-15	DS-G09	Soluble	Solid	DI Leach	
890-5565-17	DS-G09	Soluble	Solid	DI Leach	
890-5565-18	DS-G08	Soluble	Solid	DI Leach	
MB 880-66245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-66245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-66245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5565-7 MS	DS-B09	Soluble	Solid	DI Leach	
890-5565-7 MSD	DS-B09	Soluble	Solid	DI Leach	

Leach Batch: 66246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-20	DS-G08	Soluble	Solid	DI Leach	
890-5565-62	DS-J03	Soluble	Solid	DI Leach	
890-5565-63	DS-J03	Soluble	Solid	DI Leach	
890-5565-65	DS-J02	Soluble	Solid	DI Leach	
890-5565-66	DS-J02	Soluble	Solid	DI Leach	
890-5565-69	DS-B09	Soluble	Solid	DI Leach	
MB 880-66246/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-66246/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-66246/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5565-20 MS	DS-G08	Soluble	Solid	DI Leach	
890-5565-20 MSD	DS-G08	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

HPLC/IC

Analysis Batch: 66299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-21	DS-G07	Soluble	Solid	300.0	66239
890-5565-22	DS-G07	Soluble	Solid	300.0	66239
890-5565-23	DS-G07	Soluble	Solid	300.0	66239
890-5565-24	DS-H08	Soluble	Solid	300.0	66239
890-5565-26	DS-H08	Soluble	Solid	300.0	66239
890-5565-27	DS-H07	Soluble	Solid	300.0	66239
890-5565-29	DS-H07	Soluble	Solid	300.0	66239
890-5565-30	DS-H06	Soluble	Solid	300.0	66239
890-5565-32	DS-H06	Soluble	Solid	300.0	66239
890-5565-33	DS-I08	Soluble	Solid	300.0	66239
890-5565-34	DS-I08	Soluble	Solid	300.0	66239
890-5565-36	DS-I07	Soluble	Solid	300.0	66239
890-5565-38	DS-I07	Soluble	Solid	300.0	66239
890-5565-39	DS-I06	Soluble	Solid	300.0	66239
890-5565-40	DS-I06	Soluble	Solid	300.0	66239
MB 880-66239/1-A	Method Blank	Soluble	Solid	300.0	66239
LCS 880-66239/2-A	Lab Control Sample	Soluble	Solid	300.0	66239
LCSD 880-66239/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	66239
890-5565-21 MS	DS-G07	Soluble	Solid	300.0	66239
890-5565-21 MSD	DS-G07	Soluble	Solid	300.0	66239
890-5565-32 MS	DS-H06	Soluble	Solid	300.0	66239
890-5565-32 MSD	DS-H06	Soluble	Solid	300.0	66239

Analysis Batch: 66300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-41	DS-I06	Soluble	Solid	300.0	66240
890-5565-42	DS-I05	Soluble	Solid	300.0	66240
890-5565-43	DS-I05	Soluble	Solid	300.0	66240
890-5565-45	DS-I04	Soluble	Solid	300.0	66240
890-5565-46	DS-I04	Soluble	Solid	300.0	66240
890-5565-48	DS-I03	Soluble	Solid	300.0	66240
890-5565-49	DS-I03	Soluble	Solid	300.0	66240
890-5565-51	DS-J07	Soluble	Solid	300.0	66240
890-5565-52	DS-J07	Soluble	Solid	300.0	66240
890-5565-53	DS-J07	Soluble	Solid	300.0	66240
890-5565-54	DS-J06	Soluble	Solid	300.0	66240
890-5565-55	DS-J06	Soluble	Solid	300.0	66240
890-5565-57	DS-J05	Soluble	Solid	300.0	66240
890-5565-58	DS-J05	Soluble	Solid	300.0	66240
890-5565-59	DS-J04	Soluble	Solid	300.0	66240
890-5565-60	DS-J04	Soluble	Solid	300.0	66240
MB 880-66240/1-A	Method Blank	Soluble	Solid	300.0	66240
LCS 880-66240/2-A	Lab Control Sample	Soluble	Solid	300.0	66240
LCSD 880-66240/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	66240
890-5565-41 MS	DS-I06	Soluble	Solid	300.0	66240
890-5565-41 MSD	DS-I06	Soluble	Solid	300.0	66240
890-5565-51 MS	DS-J07	Soluble	Solid	300.0	66240
890-5565-51 MSD	DS-J07	Soluble	Solid	300.0	66240

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

HPLC/IC

Analysis Batch: 66324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-1	DS-A08	Soluble	Solid	300.0	66245
890-5565-3	DS-A08	Soluble	Solid	300.0	66245
890-5565-4	DS-B08	Soluble	Solid	300.0	66245
890-5565-6	DS-B08	Soluble	Solid	300.0	66245
890-5565-7	DS-B09	Soluble	Solid	300.0	66245
890-5565-8	DS-C09	Soluble	Solid	300.0	66245
890-5565-9	DS-D09	Soluble	Solid	300.0	66245
890-5565-10	DS-E09	Soluble	Solid	300.0	66245
890-5565-12	DS-E09	Soluble	Solid	300.0	66245
890-5565-13	DS-F09	Soluble	Solid	300.0	66245
890-5565-14	DS-F09	Soluble	Solid	300.0	66245
890-5565-15	DS-G09	Soluble	Solid	300.0	66245
890-5565-17	DS-G09	Soluble	Solid	300.0	66245
890-5565-18	DS-G08	Soluble	Solid	300.0	66245
MB 880-66245/1-A	Method Blank	Soluble	Solid	300.0	66245
LCS 880-66245/2-A	Lab Control Sample	Soluble	Solid	300.0	66245
LCSD 880-66245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	66245
890-5565-7 MS	DS-B09	Soluble	Solid	300.0	66245
890-5565-7 MSD	DS-B09	Soluble	Solid	300.0	66245

Analysis Batch: 66352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5565-20	DS-G08	Soluble	Solid	300.0	66246
890-5565-62	DS-J03	Soluble	Solid	300.0	66246
890-5565-63	DS-J03	Soluble	Solid	300.0	66246
890-5565-65	DS-J02	Soluble	Solid	300.0	66246
890-5565-66	DS-J02	Soluble	Solid	300.0	66246
890-5565-69	DS-B09	Soluble	Solid	300.0	66246
MB 880-66246/1-A	Method Blank	Soluble	Solid	300.0	66246
LCS 880-66246/2-A	Lab Control Sample	Soluble	Solid	300.0	66246
LCSD 880-66246/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	66246
890-5565-20 MS	DS-G08	Soluble	Solid	300.0	66246
890-5565-20 MSD	DS-G08	Soluble	Solid	300.0	66246

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-A08**Lab Sample ID: 890-5565-1****Date Collected: 11/02/23 08:50****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 14:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 14:32	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 01:39	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 01:39	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66324	11/06/23 17:02	CH	EET MID

Client Sample ID: DS-A08**Lab Sample ID: 890-5565-3****Date Collected: 11/02/23 08:54****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 11:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 11:48	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 01:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 01:59	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66324	11/06/23 17:09	CH	EET MID

Client Sample ID: DS-B08**Lab Sample ID: 890-5565-4****Date Collected: 11/02/23 08:56****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 12:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 12:08	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 02:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 02:20	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	66324	11/06/23 17:16	CH	EET MID

Client Sample ID: DS-B08**Lab Sample ID: 890-5565-6****Date Collected: 11/02/23 09:00****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 12:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 12:29	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-B08**Lab Sample ID: 890-5565-6****Date Collected: 11/02/23 09:00****Matrix: Solid****Date Received: 11/03/23 13:04**

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			66354	11/07/23 02:41	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 02:41	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66324	11/06/23 17:22	CH	EET MID

Client Sample ID: DS-B09**Lab Sample ID: 890-5565-7****Date Collected: 11/02/23 09:02****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 12:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 12:50	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 03:01	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 03:01	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66324	11/06/23 17:29	CH	EET MID

Client Sample ID: DS-C09**Lab Sample ID: 890-5565-8****Date Collected: 11/02/23 09:04****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 13:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 13:10	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 03:22	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 03:22	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66324	11/06/23 17:49	CH	EET MID

Client Sample ID: DS-D09**Lab Sample ID: 890-5565-9****Date Collected: 11/02/23 09:10****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 13:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 13:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 03:43	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 03:43	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-D09**Lab Sample ID: 890-5565-9****Date Collected: 11/02/23 09:10****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66324	11/06/23 17:55	CH	EET MID

Client Sample ID: DS-E09**Lab Sample ID: 890-5565-10****Date Collected: 11/02/23 09:16****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 13:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 13:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 04:04	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 04:04	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	66324	11/06/23 18:15	CH	EET MID

Client Sample ID: DS-E09**Lab Sample ID: 890-5565-12****Date Collected: 11/02/23 09:24****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 14:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 14:12	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 04:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 04:46	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66324	11/06/23 18:22	CH	EET MID

Client Sample ID: DS-F09**Lab Sample ID: 890-5565-13****Date Collected: 11/02/23 09:26****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 15:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 15:56	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 05:06	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 05:06	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	66324	11/06/23 18:28	CH	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-F09

Lab Sample ID: 890-5565-14

Date Collected: 11/02/23 09:28

Matrix: Solid

Date Received: 11/03/23 13:04

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	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 16:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 16:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 05:27	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 05:27	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66324	11/06/23 18:35	CH	EET MID

Client Sample ID: DS-G09

Lab Sample ID: 890-5565-15

Date Collected: 11/02/23 09:50

Matrix: Solid

Date Received: 11/03/23 13:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 16:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 16:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 05:48	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 05:48	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66324	11/06/23 18:41	CH	EET MID

Client Sample ID: DS-G09

Lab Sample ID: 890-5565-17

Date Collected: 11/02/23 09:58

Matrix: Solid

Date Received: 11/03/23 13:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 16:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 16:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 06:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 06:09	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66324	11/06/23 18:48	CH	EET MID

Client Sample ID: DS-G08

Lab Sample ID: 890-5565-18

Date Collected: 11/02/23 10:10

Matrix: Solid

Date Received: 11/03/23 13:04

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	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 17:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 17:18	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-G08

Lab Sample ID: 890-5565-18

Date Collected: 11/02/23 10:10

Matrix: Solid

Date Received: 11/03/23 13:04

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			66354	11/07/23 06:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 06:33	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	66245	11/06/23 09:35	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66324	11/06/23 18:55	CH	EET MID

Client Sample ID: DS-G08

Lab Sample ID: 890-5565-20

Date Collected: 11/02/23 10:16

Matrix: Solid

Date Received: 11/03/23 13:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 17:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 17:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 06:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 06:58	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66246	11/06/23 16:00	CH	EET MID
Soluble	Analysis	300.0		5			66352	11/06/23 23:38	CH	EET MID

Client Sample ID: DS-G07

Lab Sample ID: 890-5565-21

Date Collected: 11/02/23 10:20

Matrix: Solid

Date Received: 11/03/23 13:04

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	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 12:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 12:32	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 07:23	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 07:23	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	66299	11/06/23 12:38	CH	EET MID

Client Sample ID: DS-G07

Lab Sample ID: 890-5565-22

Date Collected: 11/02/23 10:24

Matrix: Solid

Date Received: 11/03/23 13:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 12:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 12:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 07:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 07:47	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-G07**Lab Sample ID: 890-5565-22****Date Collected: 11/02/23 10:24****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 12:53	CH	EET MID

Client Sample ID: DS-G07**Lab Sample ID: 890-5565-23****Date Collected: 11/02/23 10:28****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 13:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 13:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 08:10	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	66308	11/06/23 15:54	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66228	11/07/23 08:10	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 12:59	CH	EET MID

Client Sample ID: DS-H08**Lab Sample ID: 890-5565-24****Date Collected: 11/02/23 10:32****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 13:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 13:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/06/23 23:50	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/06/23 23:50	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 13:04	CH	EET MID

Client Sample ID: DS-H08**Lab Sample ID: 890-5565-26****Date Collected: 11/02/23 10:36****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 13:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 13:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 00:54	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 00:54	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66299	11/06/23 13:25	CH	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-H07**Lab Sample ID: 890-5565-27****Date Collected: 11/02/23 10:40****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 14:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 14:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 01:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 01:15	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 13:30	CH	EET MID

Client Sample ID: DS-H07**Lab Sample ID: 890-5565-29****Date Collected: 11/02/23 10:54****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 14:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 14:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 01:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 01:36	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 13:40	CH	EET MID

Client Sample ID: DS-H06**Lab Sample ID: 890-5565-30****Date Collected: 11/02/23 11:00****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 14:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 14:56	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 01:57	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 01:57	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 13:46	CH	EET MID

Client Sample ID: DS-H06**Lab Sample ID: 890-5565-32****Date Collected: 11/02/23 11:18****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 15:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 15:16	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-H06**Lab Sample ID: 890-5565-32****Date Collected: 11/02/23 11:18****Matrix: Solid****Date Received: 11/03/23 13:04**

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			66354	11/07/23 02:19	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 02:19	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 14:06	CH	EET MID

Client Sample ID: DS-I08**Lab Sample ID: 890-5565-33****Date Collected: 11/02/23 11:22****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 15:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 15:36	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 02:40	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 02:40	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 14:12	CH	EET MID

Client Sample ID: DS-I08**Lab Sample ID: 890-5565-34****Date Collected: 11/02/23 11:36****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 17:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 17:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 03:02	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 03:02	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 14:27	CH	EET MID

Client Sample ID: DS-I07**Lab Sample ID: 890-5565-36****Date Collected: 11/02/23 11:50****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 17:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 17:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 03:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 03:23	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I07**Lab Sample ID: 890-5565-36****Date Collected: 11/02/23 11:50****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66299	11/06/23 14:38	CH	EET MID

Client Sample ID: DS-I07**Lab Sample ID: 890-5565-38****Date Collected: 11/02/23 12:15****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 18:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 18:08	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 03:44	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 03:44	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 14:48	CH	EET MID

Client Sample ID: DS-I06**Lab Sample ID: 890-5565-39****Date Collected: 11/02/23 12:20****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 18:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 18:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 04:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 04:26	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66299	11/06/23 14:53	CH	EET MID

Client Sample ID: DS-I06**Lab Sample ID: 890-5565-40****Date Collected: 11/02/23 12:30****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 18:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 18:49	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 04:48	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 04:48	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	66239	11/06/23 08:52	CH	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	66299	11/06/23 14:59	CH	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I06**Lab Sample ID: 890-5565-41****Date Collected: 11/02/23 12:38****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/06/23 22:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 22:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 05:09	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 05:09	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66300	11/06/23 15:00	CH	EET MID

Client Sample ID: DS-I05**Lab Sample ID: 890-5565-42****Date Collected: 11/02/23 12:45****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 19:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 19:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 05:30	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 05:30	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66300	11/06/23 15:17	CH	EET MID

Client Sample ID: DS-I05**Lab Sample ID: 890-5565-43****Date Collected: 11/02/23 12:50****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 19:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 19:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 05:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 05:52	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66300	11/06/23 15:23	CH	EET MID

Client Sample ID: DS-I04**Lab Sample ID: 890-5565-45****Date Collected: 11/02/23 13:00****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 19:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 19:50	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I04**Lab Sample ID: 890-5565-45****Date Collected: 11/02/23 13:00****Matrix: Solid****Date Received: 11/03/23 13:04**

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			66354	11/07/23 06:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 06:13	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66300	11/06/23 15:34	CH	EET MID

Client Sample ID: DS-I04**Lab Sample ID: 890-5565-46****Date Collected: 11/02/23 13:15****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 20:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 20:10	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 06:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 06:35	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	66300	11/06/23 15:51	CH	EET MID

Client Sample ID: DS-I03**Lab Sample ID: 890-5565-48****Date Collected: 11/02/23 13:39****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66262	11/06/23 11:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66231	11/07/23 20:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 20:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 06:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 06:58	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66300	11/06/23 16:03	CH	EET MID

Client Sample ID: DS-I03**Lab Sample ID: 890-5565-49****Date Collected: 11/02/23 13:40****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/06/23 22:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 22:36	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 07:20	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 07:20	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-I03**Lab Sample ID: 890-5565-49****Date Collected: 11/02/23 13:40****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66300	11/06/23 16:08	CH	EET MID

Client Sample ID: DS-J07**Lab Sample ID: 890-5565-51****Date Collected: 11/02/23 13:58****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/06/23 22:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 22:56	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 07:42	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	66310	11/06/23 16:15	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66223	11/07/23 07:42	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66300	11/06/23 16:20	CH	EET MID

Client Sample ID: DS-J07**Lab Sample ID: 890-5565-52****Date Collected: 11/02/23 14:08****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/06/23 23:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 23:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 07:42	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 07:42	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66300	11/06/23 16:36	CH	EET MID

Client Sample ID: DS-J07**Lab Sample ID: 890-5565-53****Date Collected: 11/02/23 14:28****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/06/23 23:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 23:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/06/23 23:50	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/06/23 23:50	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	66300	11/06/23 16:42	CH	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J06**Lab Sample ID: 890-5565-54****Date Collected: 11/02/23 14:38****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/06/23 23:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 23:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 00:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 00:54	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	66300	11/06/23 16:59	CH	EET MID

Client Sample ID: DS-J06**Lab Sample ID: 890-5565-55****Date Collected: 11/02/23 14:48****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/07/23 00:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 00:18	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 01:15	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 01:15	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66300	11/06/23 17:05	CH	EET MID

Client Sample ID: DS-J05**Lab Sample ID: 890-5565-57****Date Collected: 11/02/23 15:48****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/07/23 00:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 00:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 01:36	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 01:36	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66300	11/06/23 17:16	CH	EET MID

Client Sample ID: DS-J05**Lab Sample ID: 890-5565-58****Date Collected: 11/02/23 15:54****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/07/23 00:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 00:59	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J05**Lab Sample ID: 890-5565-58****Date Collected: 11/02/23 15:54****Matrix: Solid****Date Received: 11/03/23 13:04**

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			66354	11/07/23 01:57	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 01:57	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	66300	11/06/23 17:22	CH	EET MID

Client Sample ID: DS-J04**Lab Sample ID: 890-5565-59****Date Collected: 11/02/23 16:08****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/07/23 01:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 01:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 02:19	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 02:19	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	66300	11/06/23 17:27	CH	EET MID

Client Sample ID: DS-J04**Lab Sample ID: 890-5565-60****Date Collected: 11/02/23 16:28****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66263	11/06/23 11:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66230	11/07/23 02:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 02:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 02:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 02:40	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	66240	11/06/23 08:58	CH	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	66300	11/06/23 17:33	CH	EET MID

Client Sample ID: DS-J03**Lab Sample ID: 890-5565-62****Date Collected: 11/02/23 16:46****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66217	11/04/23 17:22	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66220	11/06/23 18:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 18:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 03:02	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 03:02	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-J03**Lab Sample ID: 890-5565-62****Date Collected: 11/02/23 16:46****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	66246	11/06/23 16:00	CH	EET MID
Soluble	Analysis	300.0		5			66352	11/06/23 23:58	CH	EET MID

Client Sample ID: DS-J03**Lab Sample ID: 890-5565-63****Date Collected: 11/02/23 16:54****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66217	11/04/23 17:22	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66220	11/06/23 19:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 19:03	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 03:23	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 03:23	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	66246	11/06/23 16:00	CH	EET MID
Soluble	Analysis	300.0		5			66352	11/07/23 00:05	CH	EET MID

Client Sample ID: DS-J02**Lab Sample ID: 890-5565-65****Date Collected: 11/02/23 17:02****Matrix: Solid****Date Received: 11/03/23 13:04**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66217	11/04/23 17:22	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66220	11/06/23 19:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 19:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 03:44	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 03:44	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	66246	11/06/23 16:00	CH	EET MID
Soluble	Analysis	300.0		5			66352	11/07/23 00:11	CH	EET MID

Client Sample ID: DS-J02**Lab Sample ID: 890-5565-66****Date Collected: 11/02/23 17:09****Matrix: Solid****Date Received: 11/03/23 13:04**

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	66217	11/04/23 17:22	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66220	11/06/23 20:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/06/23 20:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 04:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 04:26	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66246	11/06/23 16:00	CH	EET MID
Soluble	Analysis	300.0		20			66352	11/07/23 00:18	CH	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Client Sample ID: DS-B09

Date Collected: 11/02/23 09:06

Date Received: 11/03/23 13:04

Lab Sample ID: 890-5565-69

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	66261	11/06/23 11:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66350	11/07/23 19:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66398	11/07/23 19:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			66354	11/07/23 04:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	66312	11/06/23 16:19	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66221	11/07/23 04:48	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	66246	11/06/23 16:00	CH	EET MID
Soluble	Analysis	300.0		5			66352	11/07/23 00:38	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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	T104704400-23-26	06-30-24
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: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

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

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:

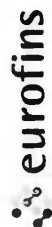
- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Muskegon

Job ID: 890-5565-1
SDG: KH237044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5565-1	DS-A08	Solid	11/02/23 08:50	11/03/23 13:04	0.5
890-5565-3	DS-A08	Solid	11/02/23 08:54	11/03/23 13:04	4.5
890-5565-4	DS-B08	Solid	11/02/23 08:56	11/03/23 13:04	0.5
890-5565-6	DS-B08	Solid	11/02/23 09:00	11/03/23 13:04	4.5
890-5565-7	DS-B09	Solid	11/02/23 09:02	11/03/23 13:04	0.5
890-5565-8	DS-C09	Solid	11/02/23 09:04	11/03/23 13:04	2.5
890-5565-9	DS-D09	Solid	11/02/23 09:10	11/03/23 13:04	4.5
890-5565-10	DS-E09	Solid	11/02/23 09:16	11/03/23 13:04	0.5
890-5565-12	DS-E09	Solid	11/02/23 09:24	11/03/23 13:04	0.5
890-5565-13	DS-F09	Solid	11/02/23 09:26	11/03/23 13:04	0.5
890-5565-14	DS-F09	Solid	11/02/23 09:28	11/03/23 13:04	2.5
890-5565-15	DS-G09	Solid	11/02/23 09:50	11/03/23 13:04	4.5
890-5565-17	DS-G09	Solid	11/02/23 09:58	11/03/23 13:04	2.5
890-5565-18	DS-G08	Solid	11/02/23 10:10	11/03/23 13:04	0.5
890-5565-20	DS-G08	Solid	11/02/23 10:16	11/03/23 13:04	4.5
890-5565-21	DS-G07	Solid	11/02/23 10:20	11/03/23 13:04	.5
890-5565-22	DS-G07	Solid	11/02/23 10:24	11/03/23 13:04	2.5
890-5565-23	DS-G07	Solid	11/02/23 10:28	11/03/23 13:04	4.5
890-5565-24	DS-H08	Solid	11/02/23 10:32	11/03/23 13:04	.5
890-5565-26	DS-H08	Solid	11/02/23 10:36	11/03/23 13:04	4.5
890-5565-27	DS-H07	Solid	11/02/23 10:40	11/03/23 13:04	.5
890-5565-29	DS-H07	Solid	11/02/23 10:54	11/03/23 13:04	4.5
890-5565-30	DS-H06	Solid	11/02/23 11:00	11/03/23 13:04	.5
890-5565-32	DS-H06	Solid	11/02/23 11:18	11/03/23 13:04	5
890-5565-33	DS-I08	Solid	11/02/23 11:22	11/03/23 13:04	.5
890-5565-34	DS-I08	Solid	11/02/23 11:36	11/03/23 13:04	2.5
890-5565-36	DS-I07	Solid	11/02/23 11:50	11/03/23 13:04	0.5
890-5565-38	DS-I07	Solid	11/02/23 12:15	11/03/23 13:04	4.5
890-5565-39	DS-I06	Solid	11/02/23 12:20	11/03/23 13:04	.5
890-5565-40	DS-I06	Solid	11/02/23 12:30	11/03/23 13:04	2.5
890-5565-41	DS-I06	Solid	11/02/23 12:38	11/03/23 13:04	4.5
890-5565-42	DS-I05	Solid	11/02/23 12:45	11/03/23 13:04	0.5
890-5565-43	DS-I05	Solid	11/02/23 12:50	11/03/23 13:04	2.5
890-5565-45	DS-I04	Solid	11/02/23 13:00	11/03/23 13:04	.5
890-5565-46	DS-I04	Solid	11/02/23 13:15	11/03/23 13:04	2.5
890-5565-48	DS-I03	Solid	11/02/23 13:39	11/03/23 13:04	0.5
890-5565-49	DS-I03	Solid	11/02/23 13:40	11/03/23 13:04	2.5
890-5565-51	DS-J07	Solid	11/02/23 13:58	11/03/23 13:04	0.5
890-5565-52	DS-J07	Solid	11/02/23 14:08	11/03/23 13:04	2.8
890-5565-53	DS-J07	Solid	11/02/23 14:28	11/03/23 13:04	4.5
890-5565-54	DS-J06	Solid	11/02/23 14:38	11/03/23 13:04	0.5
890-5565-55	DS-J06	Solid	11/02/23 14:48	11/03/23 13:04	2.5
890-5565-57	DS-J05	Solid	11/02/23 15:48	11/03/23 13:04	.5
890-5565-58	DS-J05	Solid	11/02/23 15:54	11/03/23 13:04	2.5
890-5565-59	DS-J04	Solid	11/02/23 16:08	11/03/23 13:04	.5
890-5565-60	DS-J04	Solid	11/02/23 16:28	11/03/23 13:04	2.5
890-5565-62	DS-J03	Solid	11/02/23 16:46	11/03/23 13:04	.5
890-5565-63	DS-J03	Solid	11/02/23 16:54	11/03/23 13:04	2.5
890-5565-65	DS-J02	Solid	11/02/23 17:02	11/03/23 13:04	.5
890-5565-66	DS-J02	Solid	11/02/23 17:09	11/03/23 13:04	2.5
890-5565-69	DS-B09	Solid	11/02/23 09:06	11/03/23 13:04	4.5



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

Environment Testing

Xenoco

Work Order No.

www.xenoco.com Page 1 of 8

Project Manager:		Bill to: (if different)		Spur	
Company Name:		Company Name:			
Address:		Address:			
City, State ZIP:		City, State ZIP:			
Phone:		Email:			

Project Name:		Turn Around		Pres. Code	
Project Number:		Routine ☒ Rush ☐			
Project Location:		Due Date:			
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm			
PO #:					

Project Name:		Muskegon		ANALYSIS REQUEST	
Project Number:		KH237044			
Project Location:		Gus Sanchez & Travis Casey			
Sampler's Name:					
PO #:					

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth ft	Grab/Comp	# of Cont	Parameters	Pre. Code
DS-A08	Soil	11-2	0850	0.5	Grab	1	Chloride (EPA 300)	
DS-A08	Soil	11-2	0852	2.5	Grab	1	BTEX (8021 B)	
DS-A08	Soil	11-2	0854	4.5	Grab	1	TPH (8015)	
DS-B08	Soil	11-2	0856	0.5	Grab	1		
DS-B08	Soil	11-2	0858	2.5	Grab	1		
DS-B08	Soil	11-2	0900	4.5	Grab	1		
DS-C09	Soil	11-2	0902	0.5	Grab	1		
DS-C09	Soil	11-2	0904	0.5	Grab	1		
DS-C09	Soil	11-2	0906	2.5	Grab	1		
DS-C09	Soil	11-2	0908	4.5	Grab	1		

Total 2007/6010		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 Ti Sn U V Zn	
Circle Method(s) and Metal(s) to be analyzed		TCLP/SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		Hg: 1631 / 245.1 / 7470 / 7471	

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Travis Casey</i>	<i>12:52 11/2</i>	

Revised Date 08/25/2020 Rev. 2020.2



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

Environment Testing

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Xenco

El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296

Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No:

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Project Manager:	Joseph Guesnier	Bill to: (if different)	Spur
Company Name:	Terracon	Company Name:	
Address:	4526 W. Pierce St	Address:	
City, State ZIP:	Carlsbad NM, 88220	City, State ZIP:	
Phone:	(806)-300-0140	Email:	Gus Sanchez, Travis Casey, both Certified

Project Name:		Turn Around		Pres. Code		ANALYSIS REQUEST		Preservative Codes	
Project Number:	KH237044	Route	18	Pres. Code				None: NO	DI Water: H ₂ O
Project Location:	Gus Sanchez & Travis Casey	Due Date:						Cool: Cool	MeOH: Me
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm						HCL: HC	HNO ₃ : HN
PO #:								H ₂ SO ₄ : H ₂	NaOH: Na

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters
DS-DO9	Soil	11-2	0910	0.5'	Grab	1	TPH (8015)
DS-DO9	Soil	11-2	0912	2.5'	Grab	1	BTEX (8021 B)
DS-DO9	Soil	11-2	0914	3.5'	Grab	1	Chloride (EPA 300)
DS-DO9	Soil	11-2	0916	0.5'	Grab	1	
DS-DO9	Soil	11-2	0918	2.5'	Grab	1	
DS-DO9	Soil	11-2	0924	4.5'	Grab	1	
DS-DO9	Soil	11-2	0926	0.5'	Grab	1	
DS-DO9	Soil	11-2	0928	2.5'	Grab	1	
DS-DO9	Soil	11-2	0930	4.5'	Grab	1	
DS-DO9	Soil	11-2	0950	0.5'	Grab	1	

Total 2007/6010	2008/6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP/SPLP 6010 : 8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1. Gus Sanchez	12:38	11/2			
3. Travis Casey					
5. Gus Sanchez					

Revised Date: 08/25/2020 Rev. 2020.2

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
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Hobbs, NM (575) 392-7250, Carlsbad, NM (575) 988-3199

Environment Testing

СЛУЖБА

Work Order No.:

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Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

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

Deliverables: EDO ☐ ADAPT ☐ Other: _____

Project Manager:	Joseph Guesnier	Bill to: (if different)	Spur
Company Name:	Terracon	Company Name:	
Address:	4526 W. Pierce St	Address:	
City, State ZIP:	Carlsbad NM, 88220	City, State ZIP:	
Phone:	(806)-300-0140	Email:	Geoffrey.Tais@terracon.com

Project Name:		Muskegon		Turn Around		ANALYSIS REQUEST										Preservative Codes	
Project Number:		KH237044		☐ Routine ☒ Rush													
Project Location:		Gus Sanchez & Travis Casey		Due Date:													
Sampler's Name:				TAT starts the day received by the lab, if received by 4:30pm													
PO #:																	
SAMPLE RECEIPT				Temp Blank:		Yes No		Wet Ice:		Yes No							
Samples Received Intact:				Yes No		Thermometer ID:											
Cooler Custody Seals:				Yes No		N/A		Correction Factor:									
Sample Custody Seals:				Yes No		N/A		Temperature Reading:									
Total Containers:								Corrected Temperature:									
Sample Identification		Matrix		Date Sampled		Time Sampled		Depth		Grab/Comp		# of Cont					
DS-G09		Soil		11-2		0954		2.5'		Grab		1					
DS-G09		Soil		11-2		0958		4.5'		Grab		1		BTEX (8021 B)			
DS-G08		Soil		11-2		1010		0.5'		Grab		1		Chloride (EPA 300)			
DS-G08		Soil		11-2		1014		2.5'		Grab		1		TPH (8015)		X	
DS-G08		Soil		11-2		1016		4.5'		Grab		1					
DS-G07		Soil		11-2		1020		0.5'		Grab		1					
DS-G07		Soil		11-2		1024		2.5'		Grab		1		X			
DS-G07		Soil		11-2		1028		4.5'		Grab		1		X			
DS-H08		Soil		11-2		1032		0.5'		Grab		1		X			
DS-H08		Soil		11-2		1036		2.5'		Grab		1		X			

	Total	200.7 / 6010	200.8 / 6020:	8RCRA 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 Ti Sn U V Zn
TCPLP / SPLP 6010 : 8RCRA S b A s B a B e C d C r C o C u P b M n M o N i S e A g T l U					
Hg: 1631 / 245.1 / 7470 / 7471					

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[illegible]

Revised Date: 08/25/2020 Rev. 2020.2



Chain of Custody

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Environment Testing

Xenoco

Work Order No:

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Work Order Comments

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund

State of Project: ☐ Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

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

Deliverables: ☐ EDD ☐ ADAPT ☐ Other:

Project Manager: Joseph Guesnier

Company Name: Terracon

Address: 4526 W. Pierce St

City, State ZIP: Carlsbad NM, 88220

Phone: (806)-300-0140

Bill to: (if different)

Company Name:

Address:

City, State ZIP:

Email:

Project Name: Muskegon

Project Number: KH237044

Project Location: Gus Sanchez & Travis Casey

Sampler's Name: Gus Sanchez & Travis Casey

PO #: ~~_____~~

SAMPLE RECEIPT

Samples Received Intact: Yes ☐ No ☐ Thermometer ID: _____

Cooler Custody Seals: Yes ☐ No ☐ Correction Factor: _____

Sample Custody Seals: Yes ☐ No ☐ Temperature Reading: _____

Total Containers: _____

Turn Around: ☐ Routine ☒ Rush 48

Due Date: _____

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

Temp Blank: Yes ☐ No ☐ Wet Ice: Yes ☐ No ☐

Thermometer ID: _____

Correction Factor: _____

Temperature Reading: _____

Corrected Temperature: _____

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth ft	Grab/Comp	# of Cont	Parameters	Pres. Code
DS-H08	Soil	11-2	1040	41.5	Grab	1	Chloride (EPA 300)	
DS-H07	Soil	11-2	1048	0.5	Grab	1	BTEX (8021 B)	
DS-H07	Soil	11-2	1054	2.5	Grab	1	TPH (8015)	
DS-H07	Soil	11-2	1100	6.5	Grab	1		
DS-H06	Soil	11-2	1115	0.5	Grab	1		
DS-H06	Soil	11-2	1118	2.5	Grab	1		
DS-H07	Soil	11-2	1122	41.5	Grab	1		
DS-H08	Soil	11-2	1136	0.5	Grab	1		
DS-H08	Soil	11-2	1139	2.5	Grab	1		
DS-H08	Soil	11-2	1150	41.5	Grab	1		

Preservative Codes

None: NO
 DI Water: H₂O
 Cool: Cool
 MeOH: Me
 HCL: HC
 HNO₃: HN
 H₂SO₄: H₂
 NaOH: Na
 H₃PO₄: HP
 NaHSO₄: NABIS
 Na₂S₂O₃: NaSO₃
 Zn Acetate+NaOH: Zn
 NaOH+Ascorbic Acid: SAPC

Sample Comments

Total 2007/6010 200.8/6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP/SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631/245.1/7470/7471

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<i>[Signature]</i>	<i>[Signature]</i>	12:57 1/2			

Revised Date: 08/25/2020 Rev. 2020.2



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

Environment Testing

Xenoco

Work Order No:

www.xenoco.com Page 5 of 8

Project Manager:	Joseph Guesnier	Bill to: (if different)	Spur
Company Name:	Terracon	Company Name:	
Address:	4526 W. Pierce St	Address:	
City, State ZIP:	Carlsbad NM, 88220	City, State ZIP:	
Phone:	(806)-300-0140	Email:	Gas Sanchez, Travis Casey, Joseph Guesnier@terracon.com

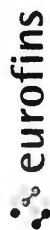
Project Name:		Turn Around		Analysis Request		Preservative Codes	
Project Number:	KH237044	☐ Routine	☒ Rush	Prep Code			None: NO DI Water: H ₂ O Cool: Cool MeOH: Me HCL: HC HNO ₃ : HN H ₂ SO ₄ : H ₂ NaOH: Na H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC
Project Location:	Gus Sanchez & Travis Casey	Due Date:					
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm					
PO #:							
SAMPLE RECEIPT		Temp Blank:	Yes No	Wet Ice:	Yes No		
Samples Received Intact:	Yes No	Thermometer ID:					
Cooler Custody Seals:	Yes No N/A	Correction Factor:					
Sample Custody Seals:	Yes No N/A	Temperature Reading:					
Total Containers:		Corrected Temperature:					
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Sample Comments
DS-I07	Soil	11-2	1159	0.5'	Grab	1	
DS-I07	Soil	11-2	1215	2.5'	Grab	1	
DS-I07	Soil	11-2	1220	5'	Grab	1	
DS-I06	Soil	11-2	1230	0.5'	Grab	1	
DS-I06	Soil	11-2	1238	2.5'	Grab	1	
DS-I06	Soil	11-2	1245	4.5'	Grab	1	
DS-I05	Soil	11-2	1250	0.5'	Grab	1	
DS-I05	Soil	11-2	1255	2.5'	Grab	1	
DS-I05	Soil	11-2	1300	4.5'	Grab	1	
DS-I04	Soil	11-2	1315	0.5'	Grab	1	

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

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<i>Travis Casey</i>	<i>abab</i>	12:52			

Revised Date: 08/25/2020 Rev. 302.2



Chain of Custody

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Midland, TX (432) 704-5440, San Antonio, TX (210) 505-3334

El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296

Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing

Xenco

Work Order No:

www.xenco.com Page 6 of 8

Project Manager:	Joseph Guesnier	Bill to: (if different)	Spur
Company Name:	Terracon	Company Name:	
Address:	4526 W. Pierce St	Address:	
City, State ZIP:	Carlsbad NM, 88220	City, State ZIP:	
Phone:	(806)-300-0140	Email:	Gus.Sanchez@terracon.com

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

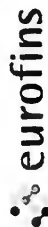
Project Name:		Turn Around		Parameters		Preservative Codes	
Project Number:	Project Location:	Route	Due Date:	Grab/Comp	Depth	Time	Sample Comments
Muskegon		☐ Routine ☒ Rush					
KH237044							
Gus Sanchez & Travis Casey							
PO #:							
SAMPLE RECEIPT							
Samples Received Intact:	Yes No	Thermometer ID:					
Cooler Custody Seals:	Yes No N/A	Correction Factor:					
Sample Custody Seals:	Yes No N/A	Temperature Reading:					
Total Containers:		Corrected Temperature:					
Sample Identification	Matrix	Date Sampled	Time Sampled	Grab/Comp	Depth	Time	Sample Comments
DS-IO4	Soil	11-2	1322	2.5" Grab	2.5"	1322	
DS-IO4	Soil	11-2	1339	4.5" Grab	4.5"	1339	
DS-IO3	Soil	11-2	1340	0.5" Grab	0.5"	1340	
DS-IO3	Soil	11-2	1348	2.5" Grab	2.5"	1348	
DS-IO3	Soil	11-2	1358	4.5" Grab	4.5"	1358	
DS-IO7	Soil	11-2	1408	0.5" Grab	0.5"	1408	
DS-IO7	Soil	11-2	1428	2.5" Grab	2.5"	1428	
DS-IO7	Soil	11-2	1438	4.5" Grab	4.5"	1438	
DS-IO6	Soil	11-2	1448	0.5" Grab	0.5"	1448	
DS-IO6	Soil	11-2	1458	2.5" Grab	2.5"	1458	

Total 2007.7/6010	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 Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP/SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471	

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<i>[Signature]</i>	<i>[Signature]</i>	12:52 11/2			

Revised Date: 08/21/2020 Rev. 2020.2



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

Environment Testing

Xenoco

Work Order No:

www.xenoco.com Page 7 of 8

Work Order Comments

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project: ☐ Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

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

Deliverables: ☐ EDD ☐ ADAPT ☐ Other:

Project Manager: Joseph Guesnier

Company Name: Terracon

Address: 4526 W. Pierce St

City, State ZIP: Carlsbad NM, 88220

Phone: (806)-300-0140

Bill to: (if different)

Company Name:

Address:

City, State ZIP:

Email: Gas Sanchez & Travis Casey

Project Name: Muskegon		Turn Around		Pres. Code		ANALYSIS REQUEST		Preservative Codes					
Project Number:	KH237044	☐ Routine	☒ Rush	Due Date:	TAT starts the day received by the lab, if received by 4:30pm	Parameters	# of Cont	Grab/Comp	Depth	Time Sampled	Date Sampled	Matrix	Sample Identification
Project Location:	Gus Sanchez & Travis Casey	Temp Blank:	Yes No	Thermometer ID:	Yes No	Wet Ice:	Yes No						
Sampler's Name:	Gus Sanchez & Travis Casey	Cooler Custody Seals:	Yes No N/A	Correction Factor:	Yes No N/A	Temperature Reading:	Corrected Temperature:						
PO #:													
None: NO DI Water: H₂O Cool: Cool MeOH: Me HCL: HC HNO₃: HN H₂SO₄: H₂ NaOH: Na H₃PO₄: HP NaHSO₄: NABIS Na₂S₂O₃: NaSO₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SACP													
Sample Comments													
TPH (8015) BTEX (8021 B) Chloride (EPA 300)													
DS-J06 DS-J05 DS-J05 DS-J05 DS-J04 DS-J04 DS-J04 DS-J03 DS-J03 DS-J03													

Total 2007/6010 2008/6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP/SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Gas Sanchez & Travis Casey</i>	<i>Gas Sanchez & Travis Casey</i>	12:52			

Revised Date: 06/25/2020 Rev. 2002



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3333
 El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing

Kenco

Work Order No:

Page 8 of 8
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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 Manager:	Joseph Guesnier	Bill to: (if different)	Spur
Company Name:	Terracon	Company Name:	
Address:	4526 W. Pierce St	Address:	
City, State ZIP:	Carlsbad NM, 88220	City, State ZIP:	
Phone:	(806)-300-0140	Email:	

[illegible]

Total	200.7 / 6010	200.8 / 6020:	
Circle Method(s) and Metal(s) to be analyzed	8RCRA 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 Ti Sn U V Zn	Hg: 1631 / 245.1 / 7470 / 7471
	TCLP / SPLP 6010 :	8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 		12.5.2 11/3			
3 					

Revised Date: 08/25/2020 Rev 2020 2

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-5565-1

SDG Number: KH237044

Login Number: 5565

List Number: 1

Creator: Lopez, Abraham

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.	N/A	Refer to Job Narrative for details.
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: Terracon Consulting Eng & Scientists

Job Number: 890-5565-1

SDG Number: KH237044

Login Number: 5565

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 11/06/23 01:01 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	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Joseph Guesnier
Terracon Consulting Eng & Scientists
2526 W Pierce Street
Carlsbad, New Mexico 88220

Generated 11/10/2023 1:19:36 PM

JOB DESCRIPTION

MUSKEGON
SDG NUMBER KH237044

JOB NUMBER

890-5570-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
11/10/2023 1:19:36 PM

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

Eurofins Carlsbad

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification # 02015.

VL = field staff performs tests under NJ State certification # 06005.

WG = field staff performs tests under NJ State certification # PA001, PA State certification # 48-01334.

H = field staff performs tests under NJ NELAP certification # PA093, PA NELAP certification # 46-05499.

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Laboratory Job ID: 890-5570-1
SDG: KH237044

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Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Qualifiers

GC VOA

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

GC Semi VOA

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

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Job ID: 890-5570-1

Laboratory: Eurofins Carlsbad

Narrative**Job Narrative
890-5570-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 11/3/2023 4:18 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: DS-P03 (890-5570-1), DS-P03 (890-5570-2), DS-P03 (890-5570-3), DS-P04 (890-5570-4), DS-P04 (890-5570-5), DS-P04 (890-5570-6), DS-P05 (890-5570-7), DS-P05 (890-5570-8), DS-P08 (890-5570-9), DS-P08 (890-5570-10), DS-Q03 (890-5570-11), DS-Q03 (890-5570-12), DS-Q03 (890-5570-13), DS-Q08 (890-5570-14), DS-Q08 (890-5570-15) and DS-Q08 (890-5570-16).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: DS-P03 (890-5570-1), DS-P03 (890-5570-2), DS-P04 (890-5570-5), (LCS 880-66358/1-A) and (890-5568-A-12-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-66358 and analytical batch 880-66359 was outside the control 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 surrogate recovery for the blank associated with preparation batch 880-66452 and analytical batch 880-66469 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-66469/20) and (CCV 880-66469/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-66469/31). 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: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P03

Lab Sample ID: 890-5570-1

Date Collected: 11/03/23 09:08

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 16:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 16:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 16:53	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/07/23 11:44	11/07/23 16:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 16:53	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/07/23 11:44	11/07/23 16:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	171	S1+	70 - 130	11/07/23 11:44	11/07/23 16:53	1
1,4-Difluorobenzene (Surr)	122		70 - 130	11/07/23 11:44	11/07/23 16:53	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/07/23 16:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	145		50.1		mg/Kg			11/08/23 12:16	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		11/07/23 17:40	11/08/23 12:16	1
Diesel Range Organics (Over C10-C28)	93.4		50.1		mg/Kg		11/07/23 17:40	11/08/23 12:16	1
Oil Range Organics (Over C28-C36)	51.3		50.1		mg/Kg		11/07/23 17:40	11/08/23 12:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	11/07/23 17:40	11/08/23 12:16	1
o-Terphenyl	103		70 - 130	11/07/23 17:40	11/08/23 12:16	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1090		4.99		mg/Kg			11/07/23 16:47	1

Client Sample ID: DS-P03

Lab Sample ID: 890-5570-2

Date Collected: 11/03/23 09:19

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 17:19	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 17:19	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 17:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 17:19	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 17:19	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 17:19	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P03

Lab Sample ID: 890-5570-2

Date Collected: 11/03/23 09:19

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	149	S1+	70 - 130	11/07/23 11:44	11/07/23 17:19	1
1,4-Difluorobenzene (Surr)	119		70 - 130	11/07/23 11:44	11/07/23 17:19	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 17:19	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			11/08/23 12:39	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/07/23 17:40	11/08/23 12:39	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		11/07/23 17:40	11/08/23 12:39	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/07/23 17:40	11/08/23 12:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130				11/07/23 17:40	11/08/23 12:39	1
o-Terphenyl	104		70 - 130				11/07/23 17:40	11/08/23 12:39	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6590		50.5		mg/Kg			11/07/23 17:06	10

Client Sample ID: DS-P03

Lab Sample ID: 890-5570-3

Date Collected: 11/03/23 09:33

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 17:45	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 17:45	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 17:45	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 17:45	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 17:45	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 17:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130				11/07/23 11:44	11/07/23 17:45	1
1,4-Difluorobenzene (Surr)	84		70 - 130				11/07/23 11:44	11/07/23 17:45	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 17:45	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/08/23 13:01	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P03
Date Collected: 11/03/23 09:33
Date Received: 11/03/23 16:18
Sample Depth: 4.5

Lab Sample ID: 890-5570-3
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/07/23 17:40	11/08/23 13:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/07/23 17:40	11/08/23 13:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/07/23 17:40	11/08/23 13:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	117		70 - 130				11/07/23 17:40	11/08/23 13:01	1
o-Terphenyl	120		70 - 130				11/07/23 17:40	11/08/23 13:01	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700		25.1		mg/Kg			11/07/23 17:13	5

Client Sample ID: DS-P04
Date Collected: 11/03/23 09:48
Date Received: 11/03/23 16:18
Sample Depth: 0.5

Lab Sample ID: 890-5570-4
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 18:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 18:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 18:11	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/07/23 11:44	11/07/23 18:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 18:11	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/07/23 11:44	11/07/23 18:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130				11/07/23 11:44	11/07/23 18:11	1
1,4-Difluorobenzene (Surr)	98		70 - 130				11/07/23 11:44	11/07/23 18:11	1

Method: TAL SOP Total BTEX - Total BTEX Calculation									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 18:11	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	208		49.6		mg/Kg			11/08/23 13:24	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/07/23 17:40	11/08/23 13:24	1
Diesel Range Organics (Over C10-C28)	152		49.6		mg/Kg		11/07/23 17:40	11/08/23 13:24	1
Oil Range Organics (Over C28-C36)	55.5		49.6		mg/Kg		11/07/23 17:40	11/08/23 13:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				11/07/23 17:40	11/08/23 13:24	1
o-Terphenyl	104		70 - 130				11/07/23 17:40	11/08/23 13:24	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P04

Lab Sample ID: 890-5570-4

Date Collected: 11/03/23 09:48

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 0.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7960		50.4		mg/Kg			11/07/23 17:20	10

Client Sample ID: DS-P04

Lab Sample ID: 890-5570-5

Date Collected: 11/03/23 10:03

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 18:36	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 18:36	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 18:36	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/07/23 11:44	11/07/23 18:36	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 18:36	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/07/23 11:44	11/07/23 18:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	146	S1+	70 - 130				11/07/23 11:44	11/07/23 18:36	1
1,4-Difluorobenzene (Surr)	83		70 - 130				11/07/23 11:44	11/07/23 18:36	1

Method: TAL SOP Total BTEX - Total BTEX Calculation									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 18:36	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	52.1		49.8		mg/Kg			11/08/23 13:50	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		11/07/23 17:40	11/08/23 13:50	1
Diesel Range Organics (Over C10-C28)	52.1		49.8		mg/Kg		11/07/23 17:40	11/08/23 13:50	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/07/23 17:40	11/08/23 13:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130				11/07/23 17:40	11/08/23 13:50	1
o-Terphenyl	114		70 - 130				11/07/23 17:40	11/08/23 13:50	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2090		24.9		mg/Kg			11/07/23 17:26	5

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P04
Date Collected: 11/03/23 10:14
Date Received: 11/03/23 16:18
Sample Depth: 0.5

Lab Sample ID: 890-5570-6
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 19:02	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 19:02	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 19:02	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/07/23 11:44	11/07/23 19:02	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 19:02	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/07/23 11:44	11/07/23 19:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130				11/07/23 11:44	11/07/23 19:02	1
1,4-Difluorobenzene (Surr)	92		70 - 130				11/07/23 11:44	11/07/23 19:02	1
Method: TAL SOP Total BTEX - Total BTEX Calculation									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 19:02	1
Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/08/23 14:15	1
Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/07/23 17:40	11/08/23 14:15	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/07/23 17:40	11/08/23 14:15	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/07/23 17:40	11/08/23 14:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130				11/07/23 17:40	11/08/23 14:15	1
o-Terphenyl	115		70 - 130				11/07/23 17:40	11/08/23 14:15	1
Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1950		25.0		mg/Kg			11/07/23 17:33	5

Client Sample ID: DS-P05
Date Collected: 11/03/23 11:50
Date Received: 11/03/23 16:18
Sample Depth: 2.5

Lab Sample ID: 890-5570-7
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 19:27	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 19:27	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 19:27	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 19:27	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 19:27	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 19:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130				11/07/23 11:44	11/07/23 19:27	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P05

Lab Sample ID: 890-5570-7

Date Collected: 11/03/23 11:50

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	98		70 - 130	11/07/23 11:44	11/07/23 19:27	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 19:27	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	279		50.3		mg/Kg			11/08/23 14:38	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/07/23 17:40	11/08/23 14:38	1
Diesel Range Organics (Over C10-C28)	185		50.3		mg/Kg		11/07/23 17:40	11/08/23 14:38	1
Oil Range Organics (Over C28-C36)	94.1		50.3		mg/Kg		11/07/23 17:40	11/08/23 14:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130				11/07/23 17:40	11/08/23 14:38	1
o-Terphenyl	114		70 - 130				11/07/23 17:40	11/08/23 14:38	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10600		101		mg/Kg			11/07/23 17:39	20

Client Sample ID: DS-P05

Lab Sample ID: 890-5570-8

Date Collected: 11/03/23 11:55

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/07/23 11:44	11/07/23 19:53	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/07/23 11:44	11/07/23 19:53	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/07/23 11:44	11/07/23 19:53	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/07/23 11:44	11/07/23 19:53	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/07/23 11:44	11/07/23 19:53	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/07/23 11:44	11/07/23 19:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130				11/07/23 11:44	11/07/23 19:53	1
1,4-Difluorobenzene (Surr)	84		70 - 130				11/07/23 11:44	11/07/23 19:53	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/07/23 19:53	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P05

Lab Sample ID: 890-5570-8

Date Collected: 11/03/23 11:55

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 0.5

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	51.1		50.4		mg/Kg			11/08/23 15:02	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		11/07/23 17:40	11/08/23 15:02	1
Diesel Range Organics (Over C10-C28)	51.1		50.4		mg/Kg		11/07/23 17:40	11/08/23 15:02	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		11/07/23 17:40	11/08/23 15:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				11/07/23 17:40	11/08/23 15:02	1
o-Terphenyl	110		70 - 130				11/07/23 17:40	11/08/23 15:02	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10600		99.8		mg/Kg			11/07/23 17:59	20

Client Sample ID: DS-P08

Lab Sample ID: 890-5570-9

Date Collected: 11/03/23 12:05

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 21:34	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 21:34	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 21:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 21:34	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 21:34	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 21:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130				11/07/23 11:44	11/07/23 21:34	1
1,4-Difluorobenzene (Surr)	97		70 - 130				11/07/23 11:44	11/07/23 21:34	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 21:34	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/08/23 16:13	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/07/23 17:40	11/08/23 16:13	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/07/23 17:40	11/08/23 16:13	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/07/23 17:40	11/08/23 16:13	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P08

Lab Sample ID: 890-5570-9

Date Collected: 11/03/23 12:05

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	11/07/23 17:40	11/08/23 16:13	1
o-Terphenyl	105		70 - 130	11/07/23 17:40	11/08/23 16:13	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6080		50.4		mg/Kg			11/07/23 18:06	10

Client Sample ID: DS-P08

Lab Sample ID: 890-5570-10

Date Collected: 11/03/23 12:10

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 21:59	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 21:59	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 21:59	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/07/23 11:44	11/07/23 21:59	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 21:59	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/07/23 11:44	11/07/23 21:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	11/07/23 11:44	11/07/23 21:59	1
1,4-Difluorobenzene (Surr)	102		70 - 130	11/07/23 11:44	11/07/23 21:59	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/07/23 21:59	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/08/23 16:37	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/07/23 17:40	11/08/23 16:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/07/23 17:40	11/08/23 16:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/07/23 17:40	11/08/23 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130	11/07/23 17:40	11/08/23 16:37	1
o-Terphenyl	100		70 - 130	11/07/23 17:40	11/08/23 16:37	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2320		25.0		mg/Kg			11/07/23 18:26	5

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-Q03

Lab Sample ID: 890-5570-11

Date Collected: 11/03/23 10:26

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 22:24	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 22:24	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 22:24	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/07/23 11:44	11/07/23 22:24	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/07/23 22:24	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/07/23 11:44	11/07/23 22:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	11/07/23 11:44	11/07/23 22:24	1
1,4-Difluorobenzene (Surr)	75		70 - 130	11/07/23 11:44	11/07/23 22:24	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/07/23 22:24	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	827		49.6		mg/Kg			11/08/23 17:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/07/23 17:40	11/08/23 17:00	1
Diesel Range Organics (Over C10-C28)	611		49.6		mg/Kg		11/07/23 17:40	11/08/23 17:00	1
Oil Range Organics (Over C28-C36)	216		49.6		mg/Kg		11/07/23 17:40	11/08/23 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130	11/07/23 17:40	11/08/23 17:00	1
o-Terphenyl	116		70 - 130	11/07/23 17:40	11/08/23 17:00	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8420		49.7		mg/Kg			11/07/23 18:32	10

Client Sample ID: DS-Q03

Lab Sample ID: 890-5570-12

Date Collected: 11/03/23 10:41

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 2.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 22:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 22:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 22:49	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/07/23 11:44	11/07/23 22:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 22:49	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/07/23 11:44	11/07/23 22:49	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-Q03

Lab Sample ID: 890-5570-12

Date Collected: 11/03/23 10:41

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	11/07/23 11:44	11/07/23 22:49	1
1,4-Difluorobenzene (Surr)	121		70 - 130	11/07/23 11:44	11/07/23 22:49	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/07/23 22:49	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	65.4		50.0		mg/Kg			11/08/23 17:23	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/07/23 17:40	11/08/23 17:23	1
Diesel Range Organics (Over C10-C28)	65.4		50.0		mg/Kg		11/07/23 17:40	11/08/23 17:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/07/23 17:40	11/08/23 17:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130				11/07/23 17:40	11/08/23 17:23	1
o-Terphenyl	106		70 - 130				11/07/23 17:40	11/08/23 17:23	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3650		25.0		mg/Kg			11/07/23 18:39	5

Client Sample ID: DS-Q03

Lab Sample ID: 890-5570-13

Date Collected: 11/03/23 10:59

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 4.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/07/23 11:44	11/07/23 23:14	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/07/23 11:44	11/07/23 23:14	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/07/23 11:44	11/07/23 23:14	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/07/23 11:44	11/07/23 23:14	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/07/23 11:44	11/07/23 23:14	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/07/23 11:44	11/07/23 23:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	11/07/23 11:44	11/07/23 23:14	1
1,4-Difluorobenzene (Surr)	95		70 - 130	11/07/23 11:44	11/07/23 23:14	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/07/23 23:14	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			11/08/23 17:46	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-Q03
Date Collected: 11/03/23 10:59
Date Received: 11/03/23 16:18
Sample Depth: 4.5

Lab Sample ID: 890-5570-13
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/07/23 17:40	11/08/23 17:46	1	
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		11/07/23 17:40	11/08/23 17:46	1	
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/07/23 17:40	11/08/23 17:46	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	109		70 - 130				11/07/23 17:40	11/08/23 17:46	1	
o-Terphenyl	118		70 - 130				11/07/23 17:40	11/08/23 17:46	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	1570		25.2		mg/Kg			11/07/23 18:45	5	

Client Sample ID: DS-Q08
Date Collected: 11/03/23 11:11
Date Received: 11/03/23 16:18
Sample Depth: 5

Lab Sample ID: 890-5570-14
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 23:40	1	
Toluene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 23:40	1	
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 23:40	1	
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 23:40	1	
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/07/23 11:44	11/07/23 23:40	1	
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/07/23 11:44	11/07/23 23:40	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	104		70 - 130				11/07/23 11:44	11/07/23 23:40	1	
1,4-Difluorobenzene (Surr)	104		70 - 130				11/07/23 11:44	11/07/23 23:40	1	

Method: TAL SOP Total BTEX - Total BTEX Calculation										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/07/23 23:40	1	

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<50.1	U	50.1		mg/Kg			11/08/23 18:09	1	

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		11/07/23 17:40	11/08/23 18:09	1	
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		11/07/23 17:40	11/08/23 18:09	1	
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		11/07/23 17:40	11/08/23 18:09	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	102		70 - 130				11/07/23 17:40	11/08/23 18:09	1	
o-Terphenyl	111		70 - 130				11/07/23 17:40	11/08/23 18:09	1	

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-Q08

Lab Sample ID: 890-5570-14

Date Collected: 11/03/23 11:11

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2230		25.0		mg/Kg			11/07/23 18:52	5

Client Sample ID: DS-Q08

Lab Sample ID: 890-5570-15

Date Collected: 11/03/23 11:27

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/08/23 00:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/08/23 00:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/08/23 00:05	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/07/23 11:44	11/08/23 00:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/08/23 00:05	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/07/23 11:44	11/08/23 00:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130				11/07/23 11:44	11/08/23 00:05	1
1,4-Difluorobenzene (Surr)	87		70 - 130				11/07/23 11:44	11/08/23 00:05	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/08/23 00:05	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			11/08/23 18:32	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		11/07/23 17:40	11/08/23 18:32	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		11/07/23 17:40	11/08/23 18:32	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		11/07/23 17:40	11/08/23 18:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130				11/07/23 17:40	11/08/23 18:32	1
o-Terphenyl	119		70 - 130				11/07/23 17:40	11/08/23 18:32	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8020		49.7		mg/Kg			11/07/23 18:59	10

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-Q08

Lab Sample ID: 890-5570-16

Date Collected: 11/03/23 11:44

Matrix: Solid

Date Received: 11/03/23 16:18

Sample Depth: 5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/08/23 00:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/08/23 00:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/08/23 00:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/07/23 11:44	11/08/23 00:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/07/23 11:44	11/08/23 00:31	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/07/23 11:44	11/08/23 00:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	11/07/23 11:44	11/08/23 00:31	1
1,4-Difluorobenzene (Surr)	92		70 - 130	11/07/23 11:44	11/08/23 00:31	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/08/23 00:31	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			11/08/23 18:54	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		11/07/23 17:40	11/08/23 18:54	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		11/07/23 17:40	11/08/23 18:54	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		11/07/23 17:40	11/08/23 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	11/07/23 17:40	11/08/23 18:54	1
o-Terphenyl	111		70 - 130	11/07/23 17:40	11/08/23 18:54	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5140		50.0		mg/Kg			11/07/23 19:05	10

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Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Method: 8021B - Volatile Organic Compounds (GC)
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-5570-1	DS-P03	171 S1+	122
890-5570-2	DS-P03	149 S1+	119
890-5570-3	DS-P03	126	84
890-5570-4	DS-P04	97	98
890-5570-5	DS-P04	146 S1+	83
890-5570-6	DS-P04	110	92
890-5570-7	DS-P05	100	98
890-5570-8	DS-P05	117	84
890-5570-9	DS-P08	122	97
890-5570-10	DS-P08	119	102
890-5570-11	DS-Q03	108	75
890-5570-12	DS-Q03	122	121
890-5570-13	DS-Q03	108	95
890-5570-14	DS-Q08	104	104
890-5570-15	DS-Q08	122	87
890-5570-16	DS-Q08	101	92
LCS 880-66358/1-A	Lab Control Sample	92	67 S1-
LCSD 880-66358/2-A	Lab Control Sample Dup	103	78
MB 880-66358/5-A	Method Blank	69 S1-	92
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)
890-5570-1	DS-P03	97	103
890-5570-2	DS-P03	101	104
890-5570-3	DS-P03	117	120
890-5570-4	DS-P04	97	104
890-5570-5	DS-P04	105	114
890-5570-6	DS-P04	105	115
890-5570-7	DS-P05	108	114
890-5570-8	DS-P05	100	110
890-5570-9	DS-P08	101	105
890-5570-10	DS-P08	96	100
890-5570-11	DS-Q03	116	116
890-5570-12	DS-Q03	99	106
890-5570-13	DS-Q03	109	118
890-5570-14	DS-Q08	102	111
890-5570-15	DS-Q08	108	119
890-5570-16	DS-Q08	104	111
LCS 880-66452/2-A	Lab Control Sample	88	109
LCSD 880-66452/3-A	Lab Control Sample Dup	91	99
MB 880-66452/1-A	Method Blank	166 S1+	179 S1+
Surrogate Legend			

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON
1CO = 1-Chlorooctane
OTPH = o-Terphenyl

Job ID: 890-5570-1
SDG: KH237044

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

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-66358/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 66359							Prep Batch: 66358		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 15:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 15:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 15:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/07/23 11:44	11/07/23 15:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/23 11:44	11/07/23 15:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/07/23 11:44	11/07/23 15:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130				11/07/23 11:44	11/07/23 15:34	1
1,4-Difluorobenzene (Surr)	92		70 - 130				11/07/23 11:44	11/07/23 15:34	1

Lab Sample ID: LCS 880-66358/1-A							Client Sample ID: Lab Control Sample		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 66359							Prep Batch: 66358		
Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Benzene		0.100	0.07981		mg/Kg		80	70 - 130	
Toluene		0.100	0.09524		mg/Kg		95	70 - 130	
Ethylbenzene		0.100	0.09379		mg/Kg		94	70 - 130	
m-Xylene & p-Xylene		0.200	0.1846		mg/Kg		92	70 - 130	
o-Xylene		0.100	0.09510		mg/Kg		95	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	92		70 - 130						
1,4-Difluorobenzene (Surr)	67	S1-	70 - 130						

Lab Sample ID: LCSD 880-66358/2-A							Client Sample ID: Lab Control Sample Dup			
Matrix: Solid							Prep Type: Total/NA			
Analysis Batch: 66359							Prep Batch: 66358			
Analyte		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene		0.100	0.09979		mg/Kg		100	70 - 130	22	35
Toluene		0.100	0.1151		mg/Kg		115	70 - 130	19	35
Ethylbenzene		0.100	0.1169		mg/Kg		117	70 - 130	22	35
m-Xylene & p-Xylene		0.200	0.2287		mg/Kg		114	70 - 130	21	35
o-Xylene		0.100	0.1136		mg/Kg		114	70 - 130	18	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits							
4-Bromofluorobenzene (Surr)	103		70 - 130							
1,4-Difluorobenzene (Surr)	78		70 - 130							

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

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

Lab Sample ID: MB 880-66452/1-A

Matrix: Solid

Analysis Batch: 66469

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 66452

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/07/23 17:39	11/08/23 07:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/07/23 17:39	11/08/23 07:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/07/23 17:39	11/08/23 07:47	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	166	S1+	70 - 130				11/07/23 17:39	11/08/23 07:47	1
o-Terphenyl	179	S1+	70 - 130				11/07/23 17:39	11/08/23 07:47	1

Lab Sample ID: LCS 880-66452/2-A

Matrix: Solid

Analysis Batch: 66469

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 66452

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	862.5		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	1000	908.3		mg/Kg		91	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	88		70 - 130				
o-Terphenyl	109		70 - 130				

Lab Sample ID: LCSD 880-66452/3-A

Matrix: Solid

Analysis Batch: 66469

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 66452

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	963.0		mg/Kg		96	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	918.2		mg/Kg		92	70 - 130	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	91		70 - 130						
o-Terphenyl	99		70 - 130						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-66334/1-A

Matrix: Solid

Analysis Batch: 66438

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/07/23 15:47	1

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-66334/2-A				Client Sample ID: Lab Control Sample							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 66438											
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	244.8		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-66334/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 66438											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	246.3		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-5570-7 MS				Client Sample ID: DS-P05							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 66438											
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	10600		5050	15860		mg/Kg		104	90 - 110		

Lab Sample ID: 890-5570-7 MSD				Client Sample ID: DS-P05							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 66438											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10600		5050	15850		mg/Kg		104	90 - 110	0	20

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

GC VOA

Prep Batch: 66358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-1	DS-P03	Total/NA	Solid	5035	
890-5570-2	DS-P03	Total/NA	Solid	5035	
890-5570-3	DS-P03	Total/NA	Solid	5035	
890-5570-4	DS-P04	Total/NA	Solid	5035	
890-5570-5	DS-P04	Total/NA	Solid	5035	
890-5570-6	DS-P04	Total/NA	Solid	5035	
890-5570-7	DS-P05	Total/NA	Solid	5035	
890-5570-8	DS-P05	Total/NA	Solid	5035	
890-5570-9	DS-P08	Total/NA	Solid	5035	
890-5570-10	DS-P08	Total/NA	Solid	5035	
890-5570-11	DS-Q03	Total/NA	Solid	5035	
890-5570-12	DS-Q03	Total/NA	Solid	5035	
890-5570-13	DS-Q03	Total/NA	Solid	5035	
890-5570-14	DS-Q08	Total/NA	Solid	5035	
890-5570-15	DS-Q08	Total/NA	Solid	5035	
890-5570-16	DS-Q08	Total/NA	Solid	5035	
MB 880-66358/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-66358/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-66358/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 66359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-1	DS-P03	Total/NA	Solid	8021B	66358
890-5570-2	DS-P03	Total/NA	Solid	8021B	66358
890-5570-3	DS-P03	Total/NA	Solid	8021B	66358
890-5570-4	DS-P04	Total/NA	Solid	8021B	66358
890-5570-5	DS-P04	Total/NA	Solid	8021B	66358
890-5570-6	DS-P04	Total/NA	Solid	8021B	66358
890-5570-7	DS-P05	Total/NA	Solid	8021B	66358
890-5570-8	DS-P05	Total/NA	Solid	8021B	66358
890-5570-9	DS-P08	Total/NA	Solid	8021B	66358
890-5570-10	DS-P08	Total/NA	Solid	8021B	66358
890-5570-11	DS-Q03	Total/NA	Solid	8021B	66358
890-5570-12	DS-Q03	Total/NA	Solid	8021B	66358
890-5570-13	DS-Q03	Total/NA	Solid	8021B	66358
890-5570-14	DS-Q08	Total/NA	Solid	8021B	66358
890-5570-15	DS-Q08	Total/NA	Solid	8021B	66358
890-5570-16	DS-Q08	Total/NA	Solid	8021B	66358
MB 880-66358/5-A	Method Blank	Total/NA	Solid	8021B	66358
LCS 880-66358/1-A	Lab Control Sample	Total/NA	Solid	8021B	66358
LCSD 880-66358/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	66358

Analysis Batch: 66528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-1	DS-P03	Total/NA	Solid	Total BTEX	
890-5570-2	DS-P03	Total/NA	Solid	Total BTEX	
890-5570-3	DS-P03	Total/NA	Solid	Total BTEX	
890-5570-4	DS-P04	Total/NA	Solid	Total BTEX	
890-5570-5	DS-P04	Total/NA	Solid	Total BTEX	
890-5570-6	DS-P04	Total/NA	Solid	Total BTEX	
890-5570-7	DS-P05	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

GC VOA (Continued)

Analysis Batch: 66528 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-8	DS-P05	Total/NA	Solid	Total BTEX	
890-5570-9	DS-P08	Total/NA	Solid	Total BTEX	
890-5570-10	DS-P08	Total/NA	Solid	Total BTEX	
890-5570-11	DS-Q03	Total/NA	Solid	Total BTEX	
890-5570-12	DS-Q03	Total/NA	Solid	Total BTEX	
890-5570-13	DS-Q03	Total/NA	Solid	Total BTEX	
890-5570-14	DS-Q08	Total/NA	Solid	Total BTEX	
890-5570-15	DS-Q08	Total/NA	Solid	Total BTEX	
890-5570-16	DS-Q08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 66452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-1	DS-P03	Total/NA	Solid	8015NM Prep	
890-5570-2	DS-P03	Total/NA	Solid	8015NM Prep	
890-5570-3	DS-P03	Total/NA	Solid	8015NM Prep	
890-5570-4	DS-P04	Total/NA	Solid	8015NM Prep	
890-5570-5	DS-P04	Total/NA	Solid	8015NM Prep	
890-5570-6	DS-P04	Total/NA	Solid	8015NM Prep	
890-5570-7	DS-P05	Total/NA	Solid	8015NM Prep	
890-5570-8	DS-P05	Total/NA	Solid	8015NM Prep	
890-5570-9	DS-P08	Total/NA	Solid	8015NM Prep	
890-5570-10	DS-P08	Total/NA	Solid	8015NM Prep	
890-5570-11	DS-Q03	Total/NA	Solid	8015NM Prep	
890-5570-12	DS-Q03	Total/NA	Solid	8015NM Prep	
890-5570-13	DS-Q03	Total/NA	Solid	8015NM Prep	
890-5570-14	DS-Q08	Total/NA	Solid	8015NM Prep	
890-5570-15	DS-Q08	Total/NA	Solid	8015NM Prep	
890-5570-16	DS-Q08	Total/NA	Solid	8015NM Prep	
MB 880-66452/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-66452/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-66452/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 66469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-1	DS-P03	Total/NA	Solid	8015B NM	66452
890-5570-2	DS-P03	Total/NA	Solid	8015B NM	66452
890-5570-3	DS-P03	Total/NA	Solid	8015B NM	66452
890-5570-4	DS-P04	Total/NA	Solid	8015B NM	66452
890-5570-5	DS-P04	Total/NA	Solid	8015B NM	66452
890-5570-6	DS-P04	Total/NA	Solid	8015B NM	66452
890-5570-7	DS-P05	Total/NA	Solid	8015B NM	66452
890-5570-8	DS-P05	Total/NA	Solid	8015B NM	66452
890-5570-9	DS-P08	Total/NA	Solid	8015B NM	66452
890-5570-10	DS-P08	Total/NA	Solid	8015B NM	66452
890-5570-11	DS-Q03	Total/NA	Solid	8015B NM	66452
890-5570-12	DS-Q03	Total/NA	Solid	8015B NM	66452
890-5570-13	DS-Q03	Total/NA	Solid	8015B NM	66452
890-5570-14	DS-Q08	Total/NA	Solid	8015B NM	66452
890-5570-15	DS-Q08	Total/NA	Solid	8015B NM	66452

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

GC Semi VOA (Continued)

Analysis Batch: 66469 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-16	DS-Q08	Total/NA	Solid	8015B NM	66452
MB 880-66452/1-A	Method Blank	Total/NA	Solid	8015B NM	66452
LCS 880-66452/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	66452
LCSD 880-66452/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	66452

Analysis Batch: 66581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-1	DS-P03	Total/NA	Solid	8015 NM	
890-5570-2	DS-P03	Total/NA	Solid	8015 NM	
890-5570-3	DS-P03	Total/NA	Solid	8015 NM	
890-5570-4	DS-P04	Total/NA	Solid	8015 NM	
890-5570-5	DS-P04	Total/NA	Solid	8015 NM	
890-5570-6	DS-P04	Total/NA	Solid	8015 NM	
890-5570-7	DS-P05	Total/NA	Solid	8015 NM	
890-5570-8	DS-P05	Total/NA	Solid	8015 NM	
890-5570-9	DS-P08	Total/NA	Solid	8015 NM	
890-5570-10	DS-P08	Total/NA	Solid	8015 NM	
890-5570-11	DS-Q03	Total/NA	Solid	8015 NM	
890-5570-12	DS-Q03	Total/NA	Solid	8015 NM	
890-5570-13	DS-Q03	Total/NA	Solid	8015 NM	
890-5570-14	DS-Q08	Total/NA	Solid	8015 NM	
890-5570-15	DS-Q08	Total/NA	Solid	8015 NM	
890-5570-16	DS-Q08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 66334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-1	DS-P03	Soluble	Solid	DI Leach	
890-5570-2	DS-P03	Soluble	Solid	DI Leach	
890-5570-3	DS-P03	Soluble	Solid	DI Leach	
890-5570-4	DS-P04	Soluble	Solid	DI Leach	
890-5570-5	DS-P04	Soluble	Solid	DI Leach	
890-5570-6	DS-P04	Soluble	Solid	DI Leach	
890-5570-7	DS-P05	Soluble	Solid	DI Leach	
890-5570-8	DS-P05	Soluble	Solid	DI Leach	
890-5570-9	DS-P08	Soluble	Solid	DI Leach	
890-5570-10	DS-P08	Soluble	Solid	DI Leach	
890-5570-11	DS-Q03	Soluble	Solid	DI Leach	
890-5570-12	DS-Q03	Soluble	Solid	DI Leach	
890-5570-13	DS-Q03	Soluble	Solid	DI Leach	
890-5570-14	DS-Q08	Soluble	Solid	DI Leach	
890-5570-15	DS-Q08	Soluble	Solid	DI Leach	
890-5570-16	DS-Q08	Soluble	Solid	DI Leach	
MB 880-66334/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-66334/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-66334/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5570-7 MS	DS-P05	Soluble	Solid	DI Leach	
890-5570-7 MSD	DS-P05	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

HPLC/IC

Analysis Batch: 66438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5570-1	DS-P03	Soluble	Solid	300.0	66334
890-5570-2	DS-P03	Soluble	Solid	300.0	66334
890-5570-3	DS-P03	Soluble	Solid	300.0	66334
890-5570-4	DS-P04	Soluble	Solid	300.0	66334
890-5570-5	DS-P04	Soluble	Solid	300.0	66334
890-5570-6	DS-P04	Soluble	Solid	300.0	66334
890-5570-7	DS-P05	Soluble	Solid	300.0	66334
890-5570-8	DS-P05	Soluble	Solid	300.0	66334
890-5570-9	DS-P08	Soluble	Solid	300.0	66334
890-5570-10	DS-P08	Soluble	Solid	300.0	66334
890-5570-11	DS-Q03	Soluble	Solid	300.0	66334
890-5570-12	DS-Q03	Soluble	Solid	300.0	66334
890-5570-13	DS-Q03	Soluble	Solid	300.0	66334
890-5570-14	DS-Q08	Soluble	Solid	300.0	66334
890-5570-15	DS-Q08	Soluble	Solid	300.0	66334
890-5570-16	DS-Q08	Soluble	Solid	300.0	66334
MB 880-66334/1-A	Method Blank	Soluble	Solid	300.0	66334
LCS 880-66334/2-A	Lab Control Sample	Soluble	Solid	300.0	66334
LCSD 880-66334/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	66334
890-5570-7 MS	DS-P05	Soluble	Solid	300.0	66334
890-5570-7 MSD	DS-P05	Soluble	Solid	300.0	66334

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P03

Date Collected: 11/03/23 09:08

Date Received: 11/03/23 16:18

Lab Sample ID: 890-5570-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 16:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 16:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 12:16	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 12:16	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		1			66438	11/07/23 16:47	CH	EET MID

Client Sample ID: DS-P03

Date Collected: 11/03/23 09:19

Date Received: 11/03/23 16:18

Lab Sample ID: 890-5570-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 17:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 17:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 12:39	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 12:39	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		10			66438	11/07/23 17:06	CH	EET MID

Client Sample ID: DS-P03

Date Collected: 11/03/23 09:33

Date Received: 11/03/23 16:18

Lab Sample ID: 890-5570-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 17:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 17:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 13:01	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 13:01	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		5			66438	11/07/23 17:13	CH	EET MID

Client Sample ID: DS-P04

Date Collected: 11/03/23 09:48

Date Received: 11/03/23 16:18

Lab Sample ID: 890-5570-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 18:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 18:11	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P04
Date Collected: 11/03/23 09:48
Date Received: 11/03/23 16:18

Lab Sample ID: 890-5570-4
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			66581	11/08/23 13:24	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 13:24	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		10			66438	11/07/23 17:20	CH	EET MID

Client Sample ID: DS-P04
Date Collected: 11/03/23 10:03
Date Received: 11/03/23 16:18

Lab Sample ID: 890-5570-5
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			4.97 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 18:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 18:36	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 13:50	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 13:50	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		5			66438	11/07/23 17:26	CH	EET MID

Client Sample ID: DS-P04
Date Collected: 11/03/23 10:14
Date Received: 11/03/23 16:18

Lab Sample ID: 890-5570-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 19:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 19:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 14:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 14:15	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		5			66438	11/07/23 17:33	CH	EET MID

Client Sample ID: DS-P05
Date Collected: 11/03/23 11:50
Date Received: 11/03/23 16:18

Lab Sample ID: 890-5570-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 19:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 19:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 14:38	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 14:38	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-P05

Lab Sample ID: 890-5570-7

Date Collected: 11/03/23 11:50

Matrix: Solid

Date Received: 11/03/23 16:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		20			66438	11/07/23 17:39	CH	EET MID

Client Sample ID: DS-P05

Lab Sample ID: 890-5570-8

Date Collected: 11/03/23 11:55

Matrix: Solid

Date Received: 11/03/23 16:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 19:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 19:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 15:02	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 15:02	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		20			66438	11/07/23 17:59	CH	EET MID

Client Sample ID: DS-P08

Lab Sample ID: 890-5570-9

Date Collected: 11/03/23 12:05

Matrix: Solid

Date Received: 11/03/23 16:18

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	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 21:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 21:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 16:13	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 16:13	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		10			66438	11/07/23 18:06	CH	EET MID

Client Sample ID: DS-P08

Lab Sample ID: 890-5570-10

Date Collected: 11/03/23 12:10

Matrix: Solid

Date Received: 11/03/23 16:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 21:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 21:59	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 16:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 16:37	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		5			66438	11/07/23 18:26	CH	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-Q03

Lab Sample ID: 890-5570-11

Date Collected: 11/03/23 10:26

Matrix: Solid

Date Received: 11/03/23 16:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 22:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 22:24	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 17:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 17:00	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		10			66438	11/07/23 18:32	CH	EET MID

Client Sample ID: DS-Q03

Lab Sample ID: 890-5570-12

Date Collected: 11/03/23 10:41

Matrix: Solid

Date Received: 11/03/23 16:18

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	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 22:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 22:49	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 17:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 17:23	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		5			66438	11/07/23 18:39	CH	EET MID

Client Sample ID: DS-Q03

Lab Sample ID: 890-5570-13

Date Collected: 11/03/23 10:59

Matrix: Solid

Date Received: 11/03/23 16:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 23:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 23:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 17:46	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 17:46	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		5			66438	11/07/23 18:45	CH	EET MID

Client Sample ID: DS-Q08

Lab Sample ID: 890-5570-14

Date Collected: 11/03/23 11:11

Matrix: Solid

Date Received: 11/03/23 16:18

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	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/07/23 23:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/07/23 23:40	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Client Sample ID: DS-Q08

Lab Sample ID: 890-5570-14

Date Collected: 11/03/23 11:11

Matrix: Solid

Date Received: 11/03/23 16:18

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			66581	11/08/23 18:09	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 18:09	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		5			66438	11/07/23 18:52	CH	EET MID

Client Sample ID: DS-Q08

Lab Sample ID: 890-5570-15

Date Collected: 11/03/23 11:27

Matrix: Solid

Date Received: 11/03/23 16:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/08/23 00:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/08/23 00:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 18:32	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 18:32	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		10			66438	11/07/23 18:59	CH	EET MID

Client Sample ID: DS-Q08

Lab Sample ID: 890-5570-16

Date Collected: 11/03/23 11:44

Matrix: Solid

Date Received: 11/03/23 16:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	66358	11/07/23 11:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	66359	11/08/23 00:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			66528	11/08/23 00:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			66581	11/08/23 18:54	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	66452	11/07/23 17:40	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	66469	11/08/23 18:54	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	66334	11/06/23 20:14	CH	EET MID
Soluble	Analysis	300.0		10			66438	11/07/23 19:05	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

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	T104704400-23-26	06-30-24
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: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

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

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:

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5570-1
SDG: KH237044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5570-1	DS-P03	Solid	11/03/23 09:08	11/03/23 16:18	0.5
890-5570-2	DS-P03	Solid	11/03/23 09:19	11/03/23 16:18	2.5
890-5570-3	DS-P03	Solid	11/03/23 09:33	11/03/23 16:18	4.5
890-5570-4	DS-P04	Solid	11/03/23 09:48	11/03/23 16:18	0.5
890-5570-5	DS-P04	Solid	11/03/23 10:03	11/03/23 16:18	2.5
890-5570-6	DS-P04	Solid	11/03/23 10:14	11/03/23 16:18	0.5
890-5570-7	DS-P05	Solid	11/03/23 11:50	11/03/23 16:18	2.5
890-5570-8	DS-P05	Solid	11/03/23 11:55	11/03/23 16:18	0.5
890-5570-9	DS-P08	Solid	11/03/23 12:05	11/03/23 16:18	2.5
890-5570-10	DS-P08	Solid	11/03/23 12:10	11/03/23 16:18	4.5
890-5570-11	DS-Q03	Solid	11/03/23 10:26	11/03/23 16:18	0.5
890-5570-12	DS-Q03	Solid	11/03/23 10:41	11/03/23 16:18	2.5
890-5570-13	DS-Q03	Solid	11/03/23 10:59	11/03/23 16:18	4.5
890-5570-14	DS-Q08	Solid	11/03/23 11:11	11/03/23 16:18	5
890-5570-15	DS-Q08	Solid	11/03/23 11:27	11/03/23 16:18	5
890-5570-16	DS-Q08	Solid	11/03/23 11:44	11/03/23 16:18	5



Environment Testing

Chain of Custody

Chain of Custody

Work Order No:

www.xenco.com Page 1 of 2

Project Manager:	Joseph Guesnier	Bill to: (if different)	Spur
Company Name:	Terracon	Company Name:	
Address:	4526 W. Pierce St	Address:	
City, State Zip:	Carlsbad NM, 88220	City, State Zip:	
Phone:	(806)-300-0140	Email:	Gus.Sanchez@terracon.com, Travis.Casey@terracon.com, Joseph.Guesnier@terracon.com

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

Project Name:	Muskegon	Turn Around		ANALYSIS REQUEST Barcode: 890-5570 Chain of Custody	Preservative Codes None: NO DI Water: H₂O Cool: Cool MeOH: Me HCL: HCL HNO₃: HN H₂SO₄: H₂ NaOH: Na H₂PO₄: HP NaHSO₄: NABIS Na₂S₂O₅: NaSO₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC				
Project Number:	KH237044	☐ Routine ☒ Rush							
Project Location:		Due Date:	48 hrs						
Sample's Name:	Gus Sanchez	TAT starts the day received by the lab, if received by 4:30pm							
PO #:		Temp Blank: ☒ No ☒ Yes Wet Ice: ☒ No ☒ Yes							
SAMPLE RECEIPT		Samples Received Intact: ☒ No ☒ Yes	Thermometer ID:	TC-101					
Cooler Custody Seals:	Yes No ☒ N/A	Correction Factor:							
Sample Custody Seals:	Yes No ☒ N/A	Temperature Reading:	4.2						
Total Containers:		Corrected Temperature:	4.0						
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Chloride (EPA 300)	BTEX ()	TPH (8)
DS-P03	Soil	11-01-23	9:08	0.5	Grab	1	X	X	X
DS-P03	Soil		9:19	2.5		1	X	X	X
DS-P03	Soil		9:37	4.5		1	X	X	X
DS-P04	Soil		9:48	0.5		1	X	X	X
DS-P04	Soil		10:03	2.5		1	X	X	X
DS-P04	Soil		10:14	4.5		1	X	X	X
DS-P05	Soil		11:50	0.5		1	X	X	X
DS-P05	Soil		11:55	2.5		1	X	X	X
DS-P08	Soil		12:05	0.5		1	X	X	X
DS-P08	Soil		12:10	2.5		1	X	X	X

Total 200.7 / 6010 2008 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		11/15/23			



Environment Testing

Xenco

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

Chain of Custody

Work Order No:

www.xenco.com Page 2 of 2

Project Manager:	Joseph Guesnier	Bill to: (if different)	Spur
Company Name:	Terracon	Company Name:	
Address:	4526 W. Pierce St	Address:	
City, State ZIP:	Carlsbad NM, 88220	City, State ZIP:	
Phone:	(806)-300-0140	Email:	Gus.Sanchez@terracon.com, Travis.Casey@terracon.com, Joseph.Guesnier@terracon.com

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

Project Name:	Muskegon	Turn Around	☐ Routine ☒ Rush	Pres. Code	ANALYSIS REQUEST																Preservative Codes	
Project Number:	KH237044	Due Date:	4/8/20																	None: NO	DI Water: H ₂ O	
Project Location:	Gus Sanchez	TAT starts the day received by the lab, if received by 4:30pm																		Cool: Cool	MeOH: Me	
Sample's Name:																				HCL: HC	HNO ₃ : HN	
PO #:																				H ₂ SO ₄ : H ₂	NaOH: Na	
SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No																H ₃ PO ₄ : HP		
Samples Received Intact:	Yes No	Thermometer ID:																		NaHSO ₄ : NABIS		
Cooler Custody Seals:	Yes No N/A	Correction Factor:																		Na ₂ S ₂ O ₅ : NaSO ₃		
Sample Custody Seals:	Yes No N/A	Temperature Heading:																		Zn Acetate+NaOH: Zn		
Total Containers:		Corrected Temperature:																		NaOH+Ascorbic Acid: SAPC		
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Cont	# of	Chloride (EPA 300)	BTEX (8021 B)	TPH (8015)												Sample Comments	
DS-Q 03	Soil	10-3-23	10:26	0.5	Grab	1	X	X	X													
DS-Q 03	Soil		10:41	2.5		1	X	X	X													
DS-Q 03	Soil		10:59	4.5		1	X	X	X													
DS-Q 08	Soil		11:11	0.5		1	X	X	X													
DS-Q 08	Soil		11:27	2.5		1	X	X	X													
DS-Q 08	Soil		11:44	4.5		1	X	X	X													
	Soil						X	X	X													
	Soil						X	X	X													
	Soil						X	X	X													
	Soil						X	X	X													

Total 200.7 / 6010 2008 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		10/18/17			

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-5570-1

SDG Number: KH237044

Login Number: 5570

List Number: 1

Creator: Lopez, Abraham

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.	N/A	Refer to Job Narrative for details.
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: Terracon Consulting Eng & Scientists

Job Number: 890-5570-1

SDG Number: KH237044

Login Number: 5570
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 11/07/23 04:22 PM

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



Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Joseph Guesnier
Terracon Consulting Eng & Scientists
2526 W Pierce Street
Carlsbad, New Mexico 88220

Generated 12/1/2023 2:28:57 PM

JOB DESCRIPTION

MUSKEGON
KH237044

JOB NUMBER

890-5672-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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12/1/2023 2:28:57 PM

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

Eurofins Carlsbad

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification # 02015.

VL = field staff performs tests under NJ State certification # 06005.

WG = field staff performs tests under NJ State certification # PA001, PA State certification # 48-01334.

H = field staff performs tests under NJ NELAP certification # PA093, PA NELAP certification # 46-05499.

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Laboratory Job ID: 890-5672-1
SDG: KH237044

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Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Job ID: 890-5672-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5672-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 11/21/2023 12:49 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: P02 0.5' (890-5672-1), P02 2' (890-5672-2), S02 0.5' (890-5672-3), S02 2' (890-5672-4), T06 0.5' (890-5672-5), T06 2' (890-5672-6), T07 0.5' (890-5672-7), T07 2' (890-5672-8), I09 0.5' (890-5672-9) and I09 2' (890-5672-10).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: I09 0.5' (890-5672-9) and (LCS 880-67908/1-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-67908 and analytical batch 880-68011 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-67908 and analytical batch 880-68011 recovered outside control limits for the following analytes: Ethylbenzene.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-67908/5-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.

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-67878 and analytical batch 880-67889 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: P02 0.5' (890-5672-1), S02 2' (890-5672-4), T06 0.5' (890-5672-5), T06 2' (890-5672-6) and T07 0.5' (890-5672-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-67878 and analytical batch 880-67889 contained Diesel Range Organics (Over C10-C28) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-67878 and analytical batch 880-67889 recovered outside control limits for the following analytes: Gasoline Range Organics

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Job ID: 890-5672-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

(GRO)-C6-C10.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-67790 and analytical batch 880-67850 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: P02 0.5'

Lab Sample ID: 890-5672-1

Date Collected: 11/20/23 03:12

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 16:12	1
Toluene	<0.00199	U F1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 16:12	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 16:12	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398		mg/Kg		11/29/23 10:26	11/30/23 16:12	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 16:12	1
Xylenes, Total	<0.00398	U F1	0.00398		mg/Kg		11/29/23 10:26	11/30/23 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	11/29/23 10:26	11/30/23 16:12	1
1,4-Difluorobenzene (Surr)	99		70 - 130	11/29/23 10:26	11/30/23 16:12	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/23 16:12	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			11/29/23 23:26	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U *1	50.4		mg/Kg		11/28/23 14:46	11/29/23 23:26	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		11/28/23 14:46	11/29/23 23:26	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		11/28/23 14:46	11/29/23 23:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	135	S1+	70 - 130	11/28/23 14:46	11/29/23 23:26	1
o-Terphenyl	118		70 - 130	11/28/23 14:46	11/29/23 23:26	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	601		5.00		mg/Kg			11/28/23 22:33	1

Client Sample ID: P02 2'

Lab Sample ID: 890-5672-2

Date Collected: 11/20/23 03:15

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 16:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 16:38	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		11/29/23 10:26	11/30/23 16:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/29/23 10:26	11/30/23 16:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 16:38	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/29/23 10:26	11/30/23 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		70 - 130	11/29/23 10:26	11/30/23 16:38	1

Eurofins Carlsbad

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: P02 2'

Lab Sample ID: 890-5672-2

Date Collected: 11/20/23 03:15

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	81		70 - 130	11/29/23 10:26	11/30/23 16:38	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/30/23 16:38	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/29/23 23:48	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U *1	50.5		mg/Kg		11/28/23 14:46	11/29/23 23:48	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/28/23 14:46	11/29/23 23:48	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/28/23 14:46	11/29/23 23:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	129		70 - 130				11/28/23 14:46	11/29/23 23:48	1
o-Terphenyl	116		70 - 130				11/28/23 14:46	11/29/23 23:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	76.6		4.96		mg/Kg			11/28/23 22:39	1

Client Sample ID: S02 0.5'

Lab Sample ID: 890-5672-3

Date Collected: 11/20/23 03:22

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 17:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 17:04	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		11/29/23 10:26	11/30/23 17:04	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/29/23 10:26	11/30/23 17:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 17:04	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/29/23 10:26	11/30/23 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	11/29/23 10:26	11/30/23 17:04	1
1,4-Difluorobenzene (Surr)	100		70 - 130	11/29/23 10:26	11/30/23 17:04	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/30/23 17:04	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/30/23 00:09	1

Eurofins Carlsbad

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: S02 0.5'
Date Collected: 11/20/23 03:22
Date Received: 11/21/23 12:49
Sample Depth: 0.5'

Lab Sample ID: 890-5672-3
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.6	U *1	49.6		mg/Kg		11/28/23 14:46	11/30/23 00:09	1	
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/28/23 14:46	11/30/23 00:09	1	
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/28/23 14:46	11/30/23 00:09	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	124		70 - 130				11/28/23 14:46	11/30/23 00:09	1	
o-Terphenyl	112		70 - 130				11/28/23 14:46	11/30/23 00:09	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	21.2		5.01		mg/Kg			11/28/23 22:44	1	

Client Sample ID: S02 2'
Date Collected: 11/20/23 03:26
Date Received: 11/21/23 12:49
Sample Depth: 2'

Lab Sample ID: 890-5672-4
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 17:30	1	
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 17:30	1	
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 17:30	1	
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 17:30	1	
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 17:30	1	
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 17:30	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	119		70 - 130				11/29/23 10:26	11/30/23 17:30	1	
1,4-Difluorobenzene (Surr)	103		70 - 130				11/29/23 10:26	11/30/23 17:30	1	

Method: TAL SOP Total BTEX - Total BTEX Calculation										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/23 17:30	1	

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.6	U	49.6		mg/Kg			11/30/23 00:30	1	

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.6	U *1	49.6		mg/Kg		11/28/23 14:46	11/30/23 00:30	1	
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/28/23 14:46	11/30/23 00:30	1	
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/28/23 14:46	11/30/23 00:30	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	138	S1+	70 - 130				11/28/23 14:46	11/30/23 00:30	1	
o-Terphenyl	126		70 - 130				11/28/23 14:46	11/30/23 00:30	1	

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: S02 2'

Lab Sample ID: 890-5672-4

Date Collected: 11/20/23 03:26

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.0		4.98		mg/Kg			11/28/23 22:50	1

Client Sample ID: T06 0.5'

Lab Sample ID: 890-5672-5

Date Collected: 11/20/23 03:32

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/29/23 10:26	11/30/23 17:55	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/29/23 10:26	11/30/23 17:55	1
Ethylbenzene	<0.00198	U *1	0.00198		mg/Kg		11/29/23 10:26	11/30/23 17:55	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/29/23 10:26	11/30/23 17:55	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/29/23 10:26	11/30/23 17:55	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/29/23 10:26	11/30/23 17:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130				11/29/23 10:26	11/30/23 17:55	1
1,4-Difluorobenzene (Surr)	107		70 - 130				11/29/23 10:26	11/30/23 17:55	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/30/23 17:55	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	144		49.5		mg/Kg			11/30/23 00:52	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U *1	49.5		mg/Kg		11/28/23 14:46	11/30/23 00:52	1
Diesel Range Organics (Over C10-C28)	144		49.5		mg/Kg		11/28/23 14:46	11/30/23 00:52	1
Oil Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		11/28/23 14:46	11/30/23 00:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	133	S1+	70 - 130				11/28/23 14:46	11/30/23 00:52	1
o-Terphenyl	121		70 - 130				11/28/23 14:46	11/30/23 00:52	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	233		4.95		mg/Kg			11/28/23 22:56	1

Eurofins Carlsbad

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: T06 2'

Lab Sample ID: 890-5672-6

Date Collected: 11/20/23 03:34

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 18:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 18:20	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		11/29/23 10:26	11/30/23 18:20	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/29/23 10:26	11/30/23 18:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 18:20	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/29/23 10:26	11/30/23 18:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130				11/29/23 10:26	11/30/23 18:20	1
1,4-Difluorobenzene (Surr)	94		70 - 130				11/29/23 10:26	11/30/23 18:20	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/30/23 18:20	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/30/23 01:34	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		11/28/23 14:46	11/30/23 01:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/28/23 14:46	11/30/23 01:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/28/23 14:46	11/30/23 01:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	155	S1+	70 - 130				11/28/23 14:46	11/30/23 01:34	1
o-Terphenyl	137	S1+	70 - 130				11/28/23 14:46	11/30/23 01:34	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	488	F1	5.04		mg/Kg			11/28/23 23:01	1

Client Sample ID: T07 0.5'

Lab Sample ID: 890-5672-7

Date Collected: 11/20/23 03:50

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 18:46	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 18:46	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 18:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 18:46	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 18:46	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 18:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130				11/29/23 10:26	11/30/23 18:46	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: T07 0.5'

Lab Sample ID: 890-5672-7

Date Collected: 11/20/23 03:50

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	113		70 - 130	11/29/23 10:26	11/30/23 18:46	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/23 18:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			11/30/23 01:55	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U *1	50.3		mg/Kg		11/28/23 14:46	11/30/23 01:55	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		11/28/23 14:46	11/30/23 01:55	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/28/23 14:46	11/30/23 01:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	138	S1+	70 - 130				11/28/23 14:46	11/30/23 01:55	1
o-Terphenyl	119		70 - 130				11/28/23 14:46	11/30/23 01:55	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	129		5.01		mg/Kg			11/28/23 23:18	1

Client Sample ID: T07 2'

Lab Sample ID: 890-5672-8

Date Collected: 11/20/23 03:54

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 19:11	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 19:11	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 19:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 19:11	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 19:11	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 19:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130				11/29/23 10:26	11/30/23 19:11	1
1,4-Difluorobenzene (Surr)	122		70 - 130				11/29/23 10:26	11/30/23 19:11	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/23 19:11	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			11/30/23 02:17	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: T07 2'

Lab Sample ID: 890-5672-8

Date Collected: 11/20/23 03:54

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U *1	50.1		mg/Kg		11/28/23 14:46	11/30/23 02:17	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		11/28/23 14:46	11/30/23 02:17	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		11/28/23 14:46	11/30/23 02:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130				11/28/23 14:46	11/30/23 02:17	1
o-Terphenyl	109		70 - 130				11/28/23 14:46	11/30/23 02:17	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	519		5.03		mg/Kg			11/28/23 23:24	1

Client Sample ID: I09 0.5'

Lab Sample ID: 890-5672-9

Date Collected: 11/20/23 04:15

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/29/23 10:26	11/30/23 19:37	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/29/23 10:26	11/30/23 19:37	1
Ethylbenzene	<0.00198	U *1	0.00198		mg/Kg		11/29/23 10:26	11/30/23 19:37	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/29/23 10:26	11/30/23 19:37	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/29/23 10:26	11/30/23 19:37	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/29/23 10:26	11/30/23 19:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130				11/29/23 10:26	11/30/23 19:37	1
1,4-Difluorobenzene (Surr)	111		70 - 130				11/29/23 10:26	11/30/23 19:37	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			11/30/23 19:37	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/30/23 02:39	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U *1	50.5		mg/Kg		11/28/23 14:46	11/30/23 02:39	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/28/23 14:46	11/30/23 02:39	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/28/23 14:46	11/30/23 02:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130				11/28/23 14:46	11/30/23 02:39	1
o-Terphenyl	107		70 - 130				11/28/23 14:46	11/30/23 02:39	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: I09 0.5'

Lab Sample ID: 890-5672-9

Date Collected: 11/20/23 04:15

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1070		25.1		mg/Kg			11/28/23 23:41	5

Client Sample ID: I09 2'

Lab Sample ID: 890-5672-10

Date Collected: 11/20/23 04:20

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 20:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 20:02	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 20:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 20:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 20:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 20:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130				11/29/23 10:26	11/30/23 20:02	1
1,4-Difluorobenzene (Surr)	105		70 - 130				11/29/23 10:26	11/30/23 20:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/23 20:02	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/30/23 03:00	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		11/28/23 14:46	11/30/23 03:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/28/23 14:46	11/30/23 03:00	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/28/23 14:46	11/30/23 03:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130				11/28/23 14:46	11/30/23 03:00	1
o-Terphenyl	106		70 - 130				11/28/23 14:46	11/30/23 03:00	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	421		5.05		mg/Kg			11/28/23 23:46	1

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Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	BFB1	DFBZ1				
		(70-130)	(70-130)				
890-5672-1	P02 0.5'	108	99				
890-5672-1 MS	P02 0.5'	105	96				
890-5672-1 MSD	P02 0.5'	119	127				
890-5672-2	P02 2'	76	81				
890-5672-3	S02 0.5'	113	100				
890-5672-4	S02 2'	119	103				
890-5672-5	T06 0.5'	128	107				
890-5672-6	T06 2'	105	94				
890-5672-7	T07 0.5'	124	113				
890-5672-8	T07 2'	97	122				
890-5672-9	I09 0.5'	131 S1+	111				
890-5672-10	I09 2'	128	105				
LCS 880-67908/1-A	Lab Control Sample	140 S1+	104				
LCSD 880-67908/2-A	Lab Control Sample Dup	109	104				
MB 880-67908/5-A	Method Blank	65 S1-	101				
Surrogate Legend							
BFB = 4-Bromofluorobenzene (Surr)							
DFBZ = 1,4-Difluorobenzene (Surr)							

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	1CO1	OTPH1				
		(70-130)	(70-130)				
890-5672-1	P02 0.5'	135 S1+	118				
890-5672-2	P02 2'	129	116				
890-5672-3	S02 0.5'	124	112				
890-5672-4	S02 2'	138 S1+	126				
890-5672-5	T06 0.5'	133 S1+	121				
890-5672-6	T06 2'	155 S1+	137 S1+				
890-5672-7	T07 0.5'	138 S1+	119				
890-5672-8	T07 2'	128	109				
890-5672-9	I09 0.5'	121	107				
890-5672-10	I09 2'	124	106				
LCS 880-67878/2-A	Lab Control Sample	86	92				
LCSD 880-67878/3-A	Lab Control Sample Dup	116	114				
MB 880-67878/1-A	Method Blank	144 S1+	139 S1+				
Surrogate Legend							
1CO = 1-Chlorooctane							
OTPH = o-Terphenyl							

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-67908/5-A

Matrix: Solid

Analysis Batch: 68011

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 67908

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/29/23 10:26	11/30/23 15:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	65	S1-	70 - 130	11/29/23 10:26	11/30/23 15:46	1
1,4-Difluorobenzene (Surr)	101		70 - 130	11/29/23 10:26	11/30/23 15:46	1

Lab Sample ID: LCS 880-67908/1-A

Matrix: Solid

Analysis Batch: 68011

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 67908

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08974		mg/Kg		90	70 - 130
Toluene	0.100	0.1171		mg/Kg		117	70 - 130
Ethylbenzene	0.100	0.07278		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	0.200	0.2171		mg/Kg		109	70 - 130
o-Xylene	0.100	0.1077		mg/Kg		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: LCSD 880-67908/2-A

Matrix: Solid

Analysis Batch: 68011

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 67908

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1017		mg/Kg		102	70 - 130	12	35
Toluene	0.100	0.1106		mg/Kg		111	70 - 130	6	35
Ethylbenzene	0.100	0.1066	*1	mg/Kg		107	70 - 130	38	35
m-Xylene & p-Xylene	0.200	0.2117		mg/Kg		106	70 - 130	3	35
o-Xylene	0.100	0.09621		mg/Kg		96	70 - 130	11	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-5672-1 MS

Matrix: Solid

Analysis Batch: 68011

Client Sample ID: P02 0.5'

Prep Type: Total/NA

Prep Batch: 67908

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U F1	0.0996	0.05680	F1	mg/Kg		56	70 - 130
Toluene	<0.00199	U F1	0.0996	0.06762	F1	mg/Kg		68	70 - 130

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

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

Lab Sample ID: 890-5672-1 MS
Matrix: Solid
Analysis Batch: 68011

Client Sample ID: P02 0.5'
Prep Type: Total/NA
Prep Batch: 67908

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U *1	0.0996	0.06966		mg/Kg		70	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.199	0.1345	F1	mg/Kg		67	70 - 130
o-Xylene	<0.00199	U	0.0996	0.07034		mg/Kg		70	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	105		70 - 130						
1,4-Difluorobenzene (Surr)	96		70 - 130						

Lab Sample ID: 890-5672-1 MSD
Matrix: Solid
Analysis Batch: 68011

Client Sample ID: P02 0.5'
Prep Type: Total/NA
Prep Batch: 67908

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0990	0.06584	F1	mg/Kg		66	70 - 130	15	35
Toluene	<0.00199	U F1	0.0990	0.06700	F1	mg/Kg		68	70 - 130	1	35
Ethylbenzene	<0.00199	U *1	0.0990	0.07916		mg/Kg		80	70 - 130	13	35
m-Xylene & p-Xylene	<0.00398	U F1	0.198	0.1522		mg/Kg		76	70 - 130	12	35
o-Xylene	<0.00199	U	0.0990	0.07950		mg/Kg		79	70 - 130	12	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	119		70 - 130								
1,4-Difluorobenzene (Surr)	127		70 - 130								

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

Lab Sample ID: MB 880-67878/1-A
Matrix: Solid
Analysis Batch: 67889

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 67878

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/28/23 14:46	11/29/23 19:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/28/23 14:46	11/29/23 19:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/28/23 14:46	11/29/23 19:44	1
Surrogate	MB %Recovery	MB Qualifier	Limits						
1-Chlorooctane	144	S1+	70 - 130						
o-Terphenyl	139	S1+	70 - 130						

Lab Sample ID: LCS 880-67878/2-A
Matrix: Solid
Analysis Batch: 67889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 67878

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	870.5		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	888.2		mg/Kg		89	70 - 130

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QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

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

Lab Sample ID: LCS 880-67878/2-A
Matrix: Solid
Analysis Batch: 67889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 67878

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

Lab Sample ID: LCSD 880-67878/3-A
Matrix: Solid
Analysis Batch: 67889

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 67878

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1085	*1	mg/Kg		109	70 - 130	22	20
Diesel Range Organics (Over C10-C28)	1000	1064		mg/Kg		106	70 - 130	18	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	114		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-67790/1-A
Matrix: Solid
Analysis Batch: 67850

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/28/23 21:25	1

Lab Sample ID: LCS 880-67790/2-A
Matrix: Solid
Analysis Batch: 67850

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	243.2		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-67790/3-A
Matrix: Solid
Analysis Batch: 67850

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	246.7		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-5672-6 MS
Matrix: Solid
Analysis Batch: 67850

Client Sample ID: T06 2'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	488	F1	252	710.9	F1	mg/Kg		89	90 - 110

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-5672-6 MSD					Client Sample ID: T06 2'							
Matrix: Solid					Prep Type: Soluble							
Analysis Batch: 67850												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	488	F1	252	711.4	F1	mg/Kg		89	90 - 110	0	20	

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

GC VOA

Prep Batch: 67908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5672-1	P02 0.5'	Total/NA	Solid	5035	
890-5672-2	P02 2'	Total/NA	Solid	5035	
890-5672-3	S02 0.5'	Total/NA	Solid	5035	
890-5672-4	S02 2'	Total/NA	Solid	5035	
890-5672-5	T06 0.5'	Total/NA	Solid	5035	
890-5672-6	T06 2'	Total/NA	Solid	5035	
890-5672-7	T07 0.5'	Total/NA	Solid	5035	
890-5672-8	T07 2'	Total/NA	Solid	5035	
890-5672-9	I09 0.5'	Total/NA	Solid	5035	
890-5672-10	I09 2'	Total/NA	Solid	5035	
MB 880-67908/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-67908/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-67908/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5672-1 MS	P02 0.5'	Total/NA	Solid	5035	
890-5672-1 MSD	P02 0.5'	Total/NA	Solid	5035	

Analysis Batch: 68011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5672-1	P02 0.5'	Total/NA	Solid	8021B	67908
890-5672-2	P02 2'	Total/NA	Solid	8021B	67908
890-5672-3	S02 0.5'	Total/NA	Solid	8021B	67908
890-5672-4	S02 2'	Total/NA	Solid	8021B	67908
890-5672-5	T06 0.5'	Total/NA	Solid	8021B	67908
890-5672-6	T06 2'	Total/NA	Solid	8021B	67908
890-5672-7	T07 0.5'	Total/NA	Solid	8021B	67908
890-5672-8	T07 2'	Total/NA	Solid	8021B	67908
890-5672-9	I09 0.5'	Total/NA	Solid	8021B	67908
890-5672-10	I09 2'	Total/NA	Solid	8021B	67908
MB 880-67908/5-A	Method Blank	Total/NA	Solid	8021B	67908
LCS 880-67908/1-A	Lab Control Sample	Total/NA	Solid	8021B	67908
LCSD 880-67908/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	67908
890-5672-1 MS	P02 0.5'	Total/NA	Solid	8021B	67908
890-5672-1 MSD	P02 0.5'	Total/NA	Solid	8021B	67908

Analysis Batch: 68157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5672-1	P02 0.5'	Total/NA	Solid	Total BTEX	
890-5672-2	P02 2'	Total/NA	Solid	Total BTEX	
890-5672-3	S02 0.5'	Total/NA	Solid	Total BTEX	
890-5672-4	S02 2'	Total/NA	Solid	Total BTEX	
890-5672-5	T06 0.5'	Total/NA	Solid	Total BTEX	
890-5672-6	T06 2'	Total/NA	Solid	Total BTEX	
890-5672-7	T07 0.5'	Total/NA	Solid	Total BTEX	
890-5672-8	T07 2'	Total/NA	Solid	Total BTEX	
890-5672-9	I09 0.5'	Total/NA	Solid	Total BTEX	
890-5672-10	I09 2'	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

GC Semi VOA

Prep Batch: 67878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5672-1	P02 0.5'	Total/NA	Solid	8015NM Prep	
890-5672-2	P02 2'	Total/NA	Solid	8015NM Prep	
890-5672-3	S02 0.5'	Total/NA	Solid	8015NM Prep	
890-5672-4	S02 2'	Total/NA	Solid	8015NM Prep	
890-5672-5	T06 0.5'	Total/NA	Solid	8015NM Prep	
890-5672-6	T06 2'	Total/NA	Solid	8015NM Prep	
890-5672-7	T07 0.5'	Total/NA	Solid	8015NM Prep	
890-5672-8	T07 2'	Total/NA	Solid	8015NM Prep	
890-5672-9	I09 0.5'	Total/NA	Solid	8015NM Prep	
890-5672-10	I09 2'	Total/NA	Solid	8015NM Prep	
MB 880-67878/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-67878/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-67878/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 67889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5672-1	P02 0.5'	Total/NA	Solid	8015B NM	67878
890-5672-2	P02 2'	Total/NA	Solid	8015B NM	67878
890-5672-3	S02 0.5'	Total/NA	Solid	8015B NM	67878
890-5672-4	S02 2'	Total/NA	Solid	8015B NM	67878
890-5672-5	T06 0.5'	Total/NA	Solid	8015B NM	67878
890-5672-6	T06 2'	Total/NA	Solid	8015B NM	67878
890-5672-7	T07 0.5'	Total/NA	Solid	8015B NM	67878
890-5672-8	T07 2'	Total/NA	Solid	8015B NM	67878
890-5672-9	I09 0.5'	Total/NA	Solid	8015B NM	67878
890-5672-10	I09 2'	Total/NA	Solid	8015B NM	67878
MB 880-67878/1-A	Method Blank	Total/NA	Solid	8015B NM	67878
LCS 880-67878/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	67878
LCSD 880-67878/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	67878

Analysis Batch: 68029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5672-1	P02 0.5'	Total/NA	Solid	8015 NM	
890-5672-2	P02 2'	Total/NA	Solid	8015 NM	
890-5672-3	S02 0.5'	Total/NA	Solid	8015 NM	
890-5672-4	S02 2'	Total/NA	Solid	8015 NM	
890-5672-5	T06 0.5'	Total/NA	Solid	8015 NM	
890-5672-6	T06 2'	Total/NA	Solid	8015 NM	
890-5672-7	T07 0.5'	Total/NA	Solid	8015 NM	
890-5672-8	T07 2'	Total/NA	Solid	8015 NM	
890-5672-9	I09 0.5'	Total/NA	Solid	8015 NM	
890-5672-10	I09 2'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 67790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5672-1	P02 0.5'	Soluble	Solid	DI Leach	
890-5672-2	P02 2'	Soluble	Solid	DI Leach	
890-5672-3	S02 0.5'	Soluble	Solid	DI Leach	
890-5672-4	S02 2'	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

HPLC/IC (Continued)

Leach Batch: 67790 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5672-5	T06 0.5'	Soluble	Solid	DI Leach	
890-5672-6	T06 2'	Soluble	Solid	DI Leach	
890-5672-7	T07 0.5'	Soluble	Solid	DI Leach	
890-5672-8	T07 2'	Soluble	Solid	DI Leach	
890-5672-9	I09 0.5'	Soluble	Solid	DI Leach	
890-5672-10	I09 2'	Soluble	Solid	DI Leach	
MB 880-67790/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-67790/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-67790/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5672-6 MS	T06 2'	Soluble	Solid	DI Leach	
890-5672-6 MSD	T06 2'	Soluble	Solid	DI Leach	

Analysis Batch: 67850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5672-1	P02 0.5'	Soluble	Solid	300.0	67790
890-5672-2	P02 2'	Soluble	Solid	300.0	67790
890-5672-3	S02 0.5'	Soluble	Solid	300.0	67790
890-5672-4	S02 2'	Soluble	Solid	300.0	67790
890-5672-5	T06 0.5'	Soluble	Solid	300.0	67790
890-5672-6	T06 2'	Soluble	Solid	300.0	67790
890-5672-7	T07 0.5'	Soluble	Solid	300.0	67790
890-5672-8	T07 2'	Soluble	Solid	300.0	67790
890-5672-9	I09 0.5'	Soluble	Solid	300.0	67790
890-5672-10	I09 2'	Soluble	Solid	300.0	67790
MB 880-67790/1-A	Method Blank	Soluble	Solid	300.0	67790
LCS 880-67790/2-A	Lab Control Sample	Soluble	Solid	300.0	67790
LCSD 880-67790/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	67790
890-5672-6 MS	T06 2'	Soluble	Solid	300.0	67790
890-5672-6 MSD	T06 2'	Soluble	Solid	300.0	67790

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: P02 0.5'

Date Collected: 11/20/23 03:12

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5672-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 16:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 16:12	SM	EET MID
Total/NA	Analysis	8015 NM		1			68029	11/29/23 23:26	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/29/23 23:26	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 22:33	CH	EET MID

Client Sample ID: P02 2'

Date Collected: 11/20/23 03:15

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5672-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 16:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 16:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			68029	11/29/23 23:48	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/29/23 23:48	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 22:39	CH	EET MID

Client Sample ID: S02 0.5'

Date Collected: 11/20/23 03:22

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5672-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 17:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 17:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			68029	11/30/23 00:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/30/23 00:09	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 22:44	CH	EET MID

Client Sample ID: S02 2'

Date Collected: 11/20/23 03:26

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5672-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 17:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 17:30	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: S02 2'
Date Collected: 11/20/23 03:26
Date Received: 11/21/23 12:49

Lab Sample ID: 890-5672-4
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			68029	11/30/23 00:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/30/23 00:30	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 22:50	CH	EET MID

Client Sample ID: T06 0.5'
Date Collected: 11/20/23 03:32
Date Received: 11/21/23 12:49

Lab Sample ID: 890-5672-5
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			5.05 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 17:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 17:55	SM	EET MID
Total/NA	Analysis	8015 NM		1			68029	11/30/23 00:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/30/23 00:52	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 22:56	CH	EET MID

Client Sample ID: T06 2'
Date Collected: 11/20/23 03:34
Date Received: 11/21/23 12:49

Lab Sample ID: 890-5672-6
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			5.01 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 18:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 18:20	SM	EET MID
Total/NA	Analysis	8015 NM		1			68029	11/30/23 01:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/30/23 01:34	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 23:01	CH	EET MID

Client Sample ID: T07 0.5'
Date Collected: 11/20/23 03:50
Date Received: 11/21/23 12:49

Lab Sample ID: 890-5672-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 18:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 18:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			68029	11/30/23 01:55	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/30/23 01:55	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Client Sample ID: T07 0.5'

Lab Sample ID: 890-5672-7

Date Collected: 11/20/23 03:50

Matrix: Solid

Date Received: 11/21/23 12:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 23:18	CH	EET MID

Client Sample ID: T07 2'

Lab Sample ID: 890-5672-8

Date Collected: 11/20/23 03:54

Matrix: Solid

Date Received: 11/21/23 12:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 19:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 19:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			68029	11/30/23 02:17	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/30/23 02:17	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 23:24	CH	EET MID

Client Sample ID: I09 0.5'

Lab Sample ID: 890-5672-9

Date Collected: 11/20/23 04:15

Matrix: Solid

Date Received: 11/21/23 12:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 19:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 19:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			68029	11/30/23 02:39	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/30/23 02:39	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	67850	11/28/23 23:41	CH	EET MID

Client Sample ID: I09 2'

Lab Sample ID: 890-5672-10

Date Collected: 11/20/23 04:20

Matrix: Solid

Date Received: 11/21/23 12:49

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 20:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68157	11/30/23 20:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			68029	11/30/23 03:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	67878	11/28/23 14:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67889	11/30/23 03:00	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 23:46	CH	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

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	T104704400-23-26	06-30-24
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: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

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

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:

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5672-1
SDG: KH237044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5672-1	P02 0.5'	Solid	11/20/23 03:12	11/21/23 12:49	0.5'
890-5672-2	P02 2'	Solid	11/20/23 03:15	11/21/23 12:49	2'
890-5672-3	S02 0.5'	Solid	11/20/23 03:22	11/21/23 12:49	0.5'
890-5672-4	S02 2'	Solid	11/20/23 03:26	11/21/23 12:49	2'
890-5672-5	T06 0.5'	Solid	11/20/23 03:32	11/21/23 12:49	0.5'
890-5672-6	T06 2'	Solid	11/20/23 03:34	11/21/23 12:49	2'
890-5672-7	T07 0.5'	Solid	11/20/23 03:50	11/21/23 12:49	0.5'
890-5672-8	T07 2'	Solid	11/20/23 03:54	11/21/23 12:49	2'
890-5672-9	I09 0.5'	Solid	11/20/23 04:15	11/21/23 12:49	0.5'
890-5672-10	I09 2'	Solid	11/20/23 04:20	11/21/23 12:49	2'





Environment Testing

Xenoco

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

Chain of Custody

Work Order No:

www.xenco.com Page 1 of C

Project Manager:	Joseph Guesnier	Bill to: (if different)	Spur
Company Name:	Terracon	Company Name:	
Address:	4526 W. Pierce St	Address:	
City, State ZIP:	Carlsbad NM, 88220	City, State ZIP:	
Phone:	(806)-300-0140	Email:	Gus.Sanchez@Terracon.com, Travis.Casey@Terracon.com, Joseph.Guesnier@Terracon.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:		Muskegon		Turn Around		Prelim. Code		ANALYSIS REQUEST		Preservative Codes									
Project Number:		KH237044		☒ Routine ☐ Rush						None: NO DI Water: H ₂ O									
Project Location:				Due Date:						Cool: Cool MeOH: Me									
Sample's Name:		Gus Sanchez		TAT starts the day received by the lab, if received by 4:30pm						HCL: HC HNO ₃ : HN									
PO #:										H ₂ SO ₄ : H ₂ NaOH: Na									
SAMPLE RECEIPT		Temp Blank:		☒ Yes ☐ No		Wet Ice:				H ₂ PO ₄ : HP									
Samples Received In tact:		☒ Yes ☐ No		Thermometer ID:		T/M/COO				NaHSO ₄ : NABIS									
Cooler Custody Seals:		☒ Yes ☐ No		Correction Factor:		-0.2				Na ₂ S ₂ O ₃ : NaSO ₃									
Sample Custody Seals:		☒ Yes ☐ No		Temperature Reading:		2.6				Zn Acetate+NaOH: Zn									
Total Containers:		☒ Yes ☐ No		Corrected Temperature:		8.4				NaOH+Ascorbic Acid: SAPC									
Sample Identification		Matrix		Date Sampled		Time Sampled		Depth		Grab/Comp		# of Cont		Chloride (EPA 300)		BTEX (8021 B)		TPH (8015)	
PO2 0.5'		Soil		11/26		3:12		0.5'		6		1		X		X		X	
PO2 2'		Soil				3:15		2'		6		1		X		X		X	
SO2 0.5'		Soil				3:22		0.5'		6		1		X		X		X	
SO2 2'		Soil				3:26		2'		6		1		X		X		X	
TO6 0.5'		Soil				3:32		0.5'		6		1		X		X		X	
TO6 2'		Soil				3:34		2'		6		1		X		X		X	
TO7 0.5'		Soil				3:50		0.5'		6		1		X		X		X	
TO7 2'		Soil				3:54		2'		6		1		X		X		X	
IO9 0.5'		Soil				4:15		0.5'		6		1		X		X		X	
IO9 2'		Soil				4:20		2'		6		1		X		X		X	
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 Ti Sn U V Zn													
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		Hq: 1631 / 245.1 / 7470 / 7471															
Relinquished by: (Signature)		Received by: (Signature)		Date/Time		Relinquished by: (Signature)		Received by: (Signature)		Date/Time									
13 M/Blue		B. Evans		11/21		12/19													
3																			
5																			

890-5672 Chain of Custody



Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-5672-1

SDG Number: KH237044

Login Number: 5672

List Number: 1

Creator: Bruns, Shannon

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.	N/A	Refer to Job Narrative for details.
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: Terracon Consulting Eng & Scientists

Job Number: 890-5672-1

SDG Number: KH237044

Login Number: 5672
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/28/23 11:33 AM

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



Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Joseph Guesnier
Terracon Consulting Eng & Scientists
2526 W Pierce Street
Carlsbad, New Mexico 88220

Generated 12/1/2023 2:28:29 PM

JOB DESCRIPTION

MUSKEGON
KH237044

JOB NUMBER

890-5671-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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12/1/2023 2:28:29 PM

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

Eurofins Carlsbad

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification # 02015.

VL = field staff performs tests under NJ State certification # 06005.

WG = field staff performs tests under NJ State certification # PA001, PA State certification # 48-01334.

H = field staff performs tests under NJ NELAP certification # PA093, PA NELAP certification # 46-05499.

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Laboratory Job ID: 890-5671-1
SDG: KH237044

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Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Job ID: 890-5671-1

Laboratory: Eurofins Carlsbad

Narrative**Job Narrative
890-5671-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 11/21/2023 12:49 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: C10 0.5' (890-5671-1), C10 2' (890-5671-2), B06 0.5' (890-5671-3), B06 2' (890-5671-4), G04 0.5' (890-5671-5), G04 2' (890-5671-6), I07 8' (890-5671-7) and R08 7' (890-5671-8).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: G04 0.5' (890-5671-5), G04 2' (890-5671-6) and (LCS 880-67908/1-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-67908 and analytical batch 880-68011 recovered outside control limits for the following analytes: Ethylbenzene.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-67908/5-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.

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-67891/20), (CCV 880-67891/31), (CCV 880-67891/47), (CCV 880-67891/5), (CCV 880-67891/58) and (LCS 880-67828/2-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: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: C10 0.5'

Lab Sample ID: 890-5671-1

Date Collected: 11/20/23 04:31

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 21:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 21:44	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		11/29/23 10:26	11/30/23 21:44	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/29/23 10:26	11/30/23 21:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 21:44	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/29/23 10:26	11/30/23 21:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	11/29/23 10:26	11/30/23 21:44	1
1,4-Difluorobenzene (Surr)	92		70 - 130	11/29/23 10:26	11/30/23 21:44	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/30/23 21:44	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			11/29/23 13:22	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		11/28/23 14:43	11/29/23 13:22	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		11/28/23 14:43	11/29/23 13:22	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		11/28/23 14:43	11/29/23 13:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	11/28/23 14:43	11/29/23 13:22	1
o-Terphenyl	87		70 - 130	11/28/23 14:43	11/29/23 13:22	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3380		50.2		mg/Kg			11/28/23 20:57	10

Client Sample ID: C10 2'

Lab Sample ID: 890-5671-2

Date Collected: 11/20/23 04:36

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 22:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 22:09	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		11/29/23 10:26	11/30/23 22:09	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/29/23 10:26	11/30/23 22:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 22:09	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/29/23 10:26	11/30/23 22:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	11/29/23 10:26	11/30/23 22:09	1

Eurofins Carlsbad

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: C10 2'

Lab Sample ID: 890-5671-2

Date Collected: 11/20/23 04:36

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	119		70 - 130	11/29/23 10:26	11/30/23 22:09	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/30/23 22:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/29/23 13:44	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/28/23 14:43	11/29/23 13:44	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/28/23 14:43	11/29/23 13:44	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/28/23 14:43	11/29/23 13:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130				11/28/23 14:43	11/29/23 13:44	1
o-Terphenyl	99		70 - 130				11/28/23 14:43	11/29/23 13:44	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	636		5.00		mg/Kg			11/28/23 20:46	1

Client Sample ID: B06 0.5'

Lab Sample ID: 890-5671-3

Date Collected: 11/20/23 04:47

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 22:35	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 22:35	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 22:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 22:35	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 22:35	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 22:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	11/29/23 10:26	11/30/23 22:35	1
1,4-Difluorobenzene (Surr)	94		70 - 130	11/29/23 10:26	11/30/23 22:35	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/23 22:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			11/29/23 14:07	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: B06 0.5'

Lab Sample ID: 890-5671-3

Date Collected: 11/20/23 04:47

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 0.5'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		11/28/23 14:43	11/29/23 14:07	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		11/28/23 14:43	11/29/23 14:07	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		11/28/23 14:43	11/29/23 14:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130				11/28/23 14:43	11/29/23 14:07	1
o-Terphenyl	99		70 - 130				11/28/23 14:43	11/29/23 14:07	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1410		24.8		mg/Kg			11/28/23 20:51	5

Client Sample ID: B06 2'

Lab Sample ID: 890-5671-4

Date Collected: 11/20/23 04:47

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 23:01	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 23:01	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 23:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 23:01	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 23:01	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 23:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130				11/29/23 10:26	11/30/23 23:01	1
1,4-Difluorobenzene (Surr)	103		70 - 130				11/29/23 10:26	11/30/23 23:01	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/23 23:01	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/29/23 14:29	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/28/23 14:43	11/29/23 14:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/28/23 14:43	11/29/23 14:29	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/28/23 14:43	11/29/23 14:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130				11/28/23 14:43	11/29/23 14:29	1
o-Terphenyl	99		70 - 130				11/28/23 14:43	11/29/23 14:29	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: B06 2'

Lab Sample ID: 890-5671-4

Date Collected: 11/20/23 04:47

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3010		50.2		mg/Kg			11/28/23 21:42	10

Client Sample ID: G04 0.5'

Lab Sample ID: 890-5671-5

Date Collected: 11/20/23 04:46

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: .05'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 23:26	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 23:26	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		11/29/23 10:26	11/30/23 23:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 23:26	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	11/30/23 23:26	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	11/30/23 23:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130				11/29/23 10:26	11/30/23 23:26	1
1,4-Difluorobenzene (Surr)	121		70 - 130				11/29/23 10:26	11/30/23 23:26	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/30/23 23:26	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	76.5		49.7		mg/Kg			11/29/23 14:52	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		11/28/23 14:43	11/29/23 14:52	1
Diesel Range Organics (Over C10-C28)	76.5		49.7		mg/Kg		11/28/23 14:43	11/29/23 14:52	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		11/28/23 14:43	11/29/23 14:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130				11/28/23 14:43	11/29/23 14:52	1
o-Terphenyl	85		70 - 130				11/28/23 14:43	11/29/23 14:52	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	527		4.99		mg/Kg			11/28/23 21:59	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: G04 2'

Lab Sample ID: 890-5671-6

Date Collected: 11/20/23 04:59

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 2'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 23:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 23:52	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		11/29/23 10:26	11/30/23 23:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/29/23 10:26	11/30/23 23:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 23:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/29/23 10:26	11/30/23 23:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	137	S1+	70 - 130	11/29/23 10:26	11/30/23 23:52	1
1,4-Difluorobenzene (Surr)	128		70 - 130	11/29/23 10:26	11/30/23 23:52	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			11/30/23 23:52	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/29/23 15:37	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		11/28/23 14:43	11/29/23 15:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/28/23 14:43	11/29/23 15:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/28/23 14:43	11/29/23 15:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	11/28/23 14:43	11/29/23 15:37	1
o-Terphenyl	95		70 - 130	11/28/23 14:43	11/29/23 15:37	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77.8		5.02		mg/Kg			11/28/23 22:05	1

Client Sample ID: I07 8'

Lab Sample ID: 890-5671-7

Date Collected: 11/21/23 11:32

Matrix: Solid

Date Received: 11/21/23 12:49

Sample Depth: 8'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	12/01/23 00:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	12/01/23 00:17	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		11/29/23 10:26	12/01/23 00:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	12/01/23 00:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/29/23 10:26	12/01/23 00:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/29/23 10:26	12/01/23 00:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	11/29/23 10:26	12/01/23 00:17	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: I07 8'
Date Collected: 11/21/23 11:32
Date Received: 11/21/23 12:49
Sample Depth: 8'

Lab Sample ID: 890-5671-7
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	107		70 - 130				11/29/23 10:26	12/01/23 00:17	1
Method: TAL SOP Total BTEX - Total BTEX Calculation									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/01/23 00:17	1
Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			11/29/23 15:59	1
Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		11/28/23 14:43	11/29/23 15:59	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		11/28/23 14:43	11/29/23 15:59	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		11/28/23 14:43	11/29/23 15:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130				11/28/23 14:43	11/29/23 15:59	1
o-Terphenyl	94		70 - 130				11/28/23 14:43	11/29/23 15:59	1
Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	90.5		4.97		mg/Kg			11/28/23 22:11	1

Client Sample ID: R08 7'
Date Collected: 11/21/23 10:45
Date Received: 11/21/23 12:49
Sample Depth: 7'

Lab Sample ID: 890-5671-8
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	12/01/23 00:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	12/01/23 00:43	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		11/29/23 10:26	12/01/23 00:43	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/29/23 10:26	12/01/23 00:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	12/01/23 00:43	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/29/23 10:26	12/01/23 00:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130				11/29/23 10:26	12/01/23 00:43	1
1,4-Difluorobenzene (Surr)	120		70 - 130				11/29/23 10:26	12/01/23 00:43	1
Method: TAL SOP Total BTEX - Total BTEX Calculation									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			12/01/23 00:43	1
Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/29/23 16:22	1

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Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: R08 7'
Date Collected: 11/21/23 10:45
Date Received: 11/21/23 12:49
Sample Depth: 7'

Lab Sample ID: 890-5671-8
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/28/23 14:43	11/29/23 16:22	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/28/23 14:43	11/29/23 16:22	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/28/23 14:43	11/29/23 16:22	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	84		70 - 130				11/28/23 14:43	11/29/23 16:22	1	
o-Terphenyl	87		70 - 130				11/28/23 14:43	11/29/23 16:22	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	327		5.05		mg/Kg			11/28/23 22:16	1	

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Method: 8021B - Volatile Organic Compounds (GC)
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-5671-1	C10 0.5'	97	92
890-5671-2	C10 2'	100	119
890-5671-3	B06 0.5'	104	94
890-5671-4	B06 2'	130	103
890-5671-5	G04 0.5'	138 S1+	121
890-5671-6	G04 2'	137 S1+	128
890-5671-7	I07 8'	106	107
890-5671-8	R08 7'	93	120
LCS 880-67908/1-A	Lab Control Sample	140 S1+	104
LCSD 880-67908/2-A	Lab Control Sample Dup	109	104
MB 880-67908/5-A	Method Blank	65 S1-	101
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)
890-5671-1	C10 0.5'	83	87
890-5671-2	C10 2'	94	99
890-5671-3	B06 0.5'	93	99
890-5671-4	B06 2'	93	99
890-5671-5	G04 0.5'	84	85
890-5671-6	G04 2'	89	95
890-5671-7	I07 8'	89	94
890-5671-8	R08 7'	84	87
LCS 880-67828/2-A	Lab Control Sample	114	131 S1+
LCSD 880-67828/3-A	Lab Control Sample Dup	103	121
MB 880-67828/1-A	Method Blank	108	124
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-67908/5-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 68011							Prep Batch: 67908		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/29/23 10:26	11/30/23 15:46	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	65	S1-	70 - 130				11/29/23 10:26	11/30/23 15:46	1
1,4-Difluorobenzene (Surr)	101		70 - 130				11/29/23 10:26	11/30/23 15:46	1

Lab Sample ID: LCS 880-67908/1-A							Client Sample ID: Lab Control Sample		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 68011							Prep Batch: 67908		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	0.100	0.08974		mg/Kg		90	70 - 130		
Toluene	0.100	0.1171		mg/Kg		117	70 - 130		
Ethylbenzene	0.100	0.07278		mg/Kg		73	70 - 130		
m-Xylene & p-Xylene	0.200	0.2171		mg/Kg		109	70 - 130		
o-Xylene	0.100	0.1077		mg/Kg		108	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130						
1,4-Difluorobenzene (Surr)	104		70 - 130						

Lab Sample ID: LCSD 880-67908/2-A						Client Sample ID: Lab Control Sample Dup					
Matrix: Solid						Prep Type: Total/NA					
Analysis Batch: 68011						Prep Batch: 67908					
				Spike	LCSD	LCSD			%Rec		RPD
Analyte				Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD
Benzene				0.100	0.1017		mg/Kg		102	70 - 130	12
Toluene				0.100	0.1106		mg/Kg		111	70 - 130	6
Ethylbenzene				0.100	0.1066	*1	mg/Kg		107	70 - 130	38
m-Xylene & p-Xylene				0.200	0.2117		mg/Kg		106	70 - 130	3
o-Xylene				0.100	0.09621		mg/Kg		96	70 - 130	11

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

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

Lab Sample ID: MB 880-67828/1-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 67891							Prep Batch: 67828		
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/28/23 10:15	11/29/23 08:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/28/23 10:15	11/29/23 08:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/28/23 10:15	11/29/23 08:03	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130				11/28/23 10:15	11/29/23 08:03	1
o-Terphenyl	124		70 - 130				11/28/23 10:15	11/29/23 08:03	1

Lab Sample ID: LCS 880-67828/2-A							Client Sample ID: Lab Control Sample		
Matrix: Solid							Prep Type: Total/NA		
Analysis Batch: 67891							Prep Batch: 67828		
Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10		1000	946.4		mg/Kg		95	70 - 130	
Diesel Range Organics (Over C10-C28)		1000	1039		mg/Kg		104	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
1-Chlorooctane	114		70 - 130						
o-Terphenyl	131	S1+	70 - 130						

Lab Sample ID: LCSD 880-67828/3-A							Client Sample ID: Lab Control Sample Dup			
Matrix: Solid							Prep Type: Total/NA			
Analysis Batch: 67891							Prep Batch: 67828			
Analyte		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10		1000	918.3		mg/Kg		92	70 - 130	3	20
Diesel Range Organics (Over C10-C28)		1000	969.7		mg/Kg		97	70 - 130	7	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits							
1-Chlorooctane	103		70 - 130							
o-Terphenyl	121		70 - 130							

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-67781/1-A							Client Sample ID: Method Blank		
Matrix: Solid							Prep Type: Soluble		
Analysis Batch: 67842									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/28/23 17:53	1

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-67781/2-A

Matrix: Solid

Analysis Batch: 67842

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	240.2		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-67781/3-A

Matrix: Solid

Analysis Batch: 67842

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	243.5		mg/Kg		97	90 - 110	1	20

Lab Sample ID: MB 880-67790/1-A

Matrix: Solid

Analysis Batch: 67850

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/28/23 21:25	1

Lab Sample ID: LCS 880-67790/2-A

Matrix: Solid

Analysis Batch: 67850

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	243.2		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-67790/3-A

Matrix: Solid

Analysis Batch: 67850

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	246.7		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-5671-4 MS

Matrix: Solid

Analysis Batch: 67850

Client Sample ID: B06 2'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3010		2510	5574		mg/Kg		102	90 - 110

Lab Sample ID: 890-5671-4 MSD

Matrix: Solid

Analysis Batch: 67850

Client Sample ID: B06 2'

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3010		2510	5588		mg/Kg		103	90 - 110	0	20

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

GC VOA

Prep Batch: 67908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-1	C10 0.5'	Total/NA	Solid	5035	
890-5671-2	C10 2'	Total/NA	Solid	5035	
890-5671-3	B06 0.5'	Total/NA	Solid	5035	
890-5671-4	B06 2'	Total/NA	Solid	5035	
890-5671-5	G04 0.5'	Total/NA	Solid	5035	
890-5671-6	G04 2'	Total/NA	Solid	5035	
890-5671-7	I07 8'	Total/NA	Solid	5035	
890-5671-8	R08 7'	Total/NA	Solid	5035	
MB 880-67908/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-67908/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-67908/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 68011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-1	C10 0.5'	Total/NA	Solid	8021B	67908
890-5671-2	C10 2'	Total/NA	Solid	8021B	67908
890-5671-3	B06 0.5'	Total/NA	Solid	8021B	67908
890-5671-4	B06 2'	Total/NA	Solid	8021B	67908
890-5671-5	G04 0.5'	Total/NA	Solid	8021B	67908
890-5671-6	G04 2'	Total/NA	Solid	8021B	67908
890-5671-7	I07 8'	Total/NA	Solid	8021B	67908
890-5671-8	R08 7'	Total/NA	Solid	8021B	67908
MB 880-67908/5-A	Method Blank	Total/NA	Solid	8021B	67908
LCS 880-67908/1-A	Lab Control Sample	Total/NA	Solid	8021B	67908
LCSD 880-67908/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	67908

Analysis Batch: 68158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-1	C10 0.5'	Total/NA	Solid	Total BTEX	
890-5671-2	C10 2'	Total/NA	Solid	Total BTEX	
890-5671-3	B06 0.5'	Total/NA	Solid	Total BTEX	
890-5671-4	B06 2'	Total/NA	Solid	Total BTEX	
890-5671-5	G04 0.5'	Total/NA	Solid	Total BTEX	
890-5671-6	G04 2'	Total/NA	Solid	Total BTEX	
890-5671-7	I07 8'	Total/NA	Solid	Total BTEX	
890-5671-8	R08 7'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 67828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-1	C10 0.5'	Total/NA	Solid	8015NM Prep	
890-5671-2	C10 2'	Total/NA	Solid	8015NM Prep	
890-5671-3	B06 0.5'	Total/NA	Solid	8015NM Prep	
890-5671-4	B06 2'	Total/NA	Solid	8015NM Prep	
890-5671-5	G04 0.5'	Total/NA	Solid	8015NM Prep	
890-5671-6	G04 2'	Total/NA	Solid	8015NM Prep	
890-5671-7	I07 8'	Total/NA	Solid	8015NM Prep	
890-5671-8	R08 7'	Total/NA	Solid	8015NM Prep	
MB 880-67828/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-67828/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

GC Semi VOA (Continued)

Prep Batch: 67828 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-67828/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 67891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-1	C10 0.5'	Total/NA	Solid	8015B NM	67828
890-5671-2	C10 2'	Total/NA	Solid	8015B NM	67828
890-5671-3	B06 0.5'	Total/NA	Solid	8015B NM	67828
890-5671-4	B06 2'	Total/NA	Solid	8015B NM	67828
890-5671-5	G04 0.5'	Total/NA	Solid	8015B NM	67828
890-5671-6	G04 2'	Total/NA	Solid	8015B NM	67828
890-5671-7	I07 8'	Total/NA	Solid	8015B NM	67828
890-5671-8	R08 7'	Total/NA	Solid	8015B NM	67828
MB 880-67828/1-A	Method Blank	Total/NA	Solid	8015B NM	67828
LCS 880-67828/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	67828
LCSD 880-67828/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	67828

Analysis Batch: 68035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-1	C10 0.5'	Total/NA	Solid	8015 NM	
890-5671-2	C10 2'	Total/NA	Solid	8015 NM	
890-5671-3	B06 0.5'	Total/NA	Solid	8015 NM	
890-5671-4	B06 2'	Total/NA	Solid	8015 NM	
890-5671-5	G04 0.5'	Total/NA	Solid	8015 NM	
890-5671-6	G04 2'	Total/NA	Solid	8015 NM	
890-5671-7	I07 8'	Total/NA	Solid	8015 NM	
890-5671-8	R08 7'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 67781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-1	C10 0.5'	Soluble	Solid	DI Leach	
890-5671-2	C10 2'	Soluble	Solid	DI Leach	
890-5671-3	B06 0.5'	Soluble	Solid	DI Leach	
MB 880-67781/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-67781/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-67781/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 67790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-4	B06 2'	Soluble	Solid	DI Leach	
890-5671-5	G04 0.5'	Soluble	Solid	DI Leach	
890-5671-6	G04 2'	Soluble	Solid	DI Leach	
890-5671-7	I07 8'	Soluble	Solid	DI Leach	
890-5671-8	R08 7'	Soluble	Solid	DI Leach	
MB 880-67790/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-67790/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-67790/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5671-4 MS	B06 2'	Soluble	Solid	DI Leach	
890-5671-4 MSD	B06 2'	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

HPLC/IC

Analysis Batch: 67842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-1	C10 0.5'	Soluble	Solid	300.0	67781
890-5671-2	C10 2'	Soluble	Solid	300.0	67781
890-5671-3	B06 0.5'	Soluble	Solid	300.0	67781
MB 880-67781/1-A	Method Blank	Soluble	Solid	300.0	67781
LCS 880-67781/2-A	Lab Control Sample	Soluble	Solid	300.0	67781
LCSD 880-67781/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	67781

Analysis Batch: 67850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5671-4	B06 2'	Soluble	Solid	300.0	67790
890-5671-5	G04 0.5'	Soluble	Solid	300.0	67790
890-5671-6	G04 2'	Soluble	Solid	300.0	67790
890-5671-7	I07 8'	Soluble	Solid	300.0	67790
890-5671-8	R08 7'	Soluble	Solid	300.0	67790
MB 880-67790/1-A	Method Blank	Soluble	Solid	300.0	67790
LCS 880-67790/2-A	Lab Control Sample	Soluble	Solid	300.0	67790
LCSD 880-67790/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	67790
890-5671-4 MS	B06 2'	Soluble	Solid	300.0	67790
890-5671-4 MSD	B06 2'	Soluble	Solid	300.0	67790

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: C10 0.5'

Date Collected: 11/20/23 04:31

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 21:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68158	11/30/23 21:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			68035	11/29/23 13:22	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	67828	11/28/23 14:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67891	11/29/23 13:22	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	67781	11/27/23 17:15	SA	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	67842	11/28/23 20:57	CH	EET MID

Client Sample ID: C10 2'

Date Collected: 11/20/23 04:36

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 22:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68158	11/30/23 22:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			68035	11/29/23 13:44	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	67828	11/28/23 14:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67891	11/29/23 13:44	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	67781	11/27/23 17:15	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67842	11/28/23 20:46	CH	EET MID

Client Sample ID: B06 0.5'

Date Collected: 11/20/23 04:47

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 22:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68158	11/30/23 22:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			68035	11/29/23 14:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	67828	11/28/23 14:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67891	11/29/23 14:07	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	67781	11/27/23 17:15	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	67842	11/28/23 20:51	CH	EET MID

Client Sample ID: B06 2'

Date Collected: 11/20/23 04:47

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 23:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68158	11/30/23 23:01	SM	EET MID

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Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: B06 2'

Date Collected: 11/20/23 04:47

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-4

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			68035	11/29/23 14:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	67828	11/28/23 14:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67891	11/29/23 14:29	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	67850	11/28/23 21:42	CH	EET MID

Client Sample ID: G04 0.5'

Date Collected: 11/20/23 04:46

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-5

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			5.02 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 23:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68158	11/30/23 23:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			68035	11/29/23 14:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	67828	11/28/23 14:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67891	11/29/23 14:52	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 21:59	CH	EET MID

Client Sample ID: G04 2'

Date Collected: 11/20/23 04:59

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-6

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			5.00 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	11/30/23 23:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68158	11/30/23 23:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			68035	11/29/23 15:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	67828	11/28/23 14:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67891	11/29/23 15:37	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 22:05	CH	EET MID

Client Sample ID: I07 8'

Date Collected: 11/21/23 11:32

Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	12/01/23 00:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68158	12/01/23 00:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			68035	11/29/23 15:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	67828	11/28/23 14:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67891	11/29/23 15:59	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Client Sample ID: I07 8'
Date Collected: 11/21/23 11:32
Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 22:11	CH	EET MID

Client Sample ID: R08 7'
Date Collected: 11/21/23 10:45
Date Received: 11/21/23 12:49

Lab Sample ID: 890-5671-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	67908	11/29/23 10:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68011	12/01/23 00:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			68158	12/01/23 00:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			68035	11/29/23 16:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	67828	11/28/23 14:43	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	67891	11/29/23 16:22	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	67790	11/27/23 17:50	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	67850	11/28/23 22:16	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

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	T104704400-23-26	06-30-24
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: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

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

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:

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: MUSKEGON

Job ID: 890-5671-1
SDG: KH237044

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5671-1	C10 0.5'	Solid	11/20/23 04:31	11/21/23 12:49	0.5'
890-5671-2	C10 2'	Solid	11/20/23 04:36	11/21/23 12:49	2'
890-5671-3	B06 0.5'	Solid	11/20/23 04:47	11/21/23 12:49	0.5'
890-5671-4	B06 2'	Solid	11/20/23 04:47	11/21/23 12:49	2'
890-5671-5	G04 0.5'	Solid	11/20/23 04:46	11/21/23 12:49	.05'
890-5671-6	G04 2'	Solid	11/20/23 04:59	11/21/23 12:49	2'
890-5671-7	I07 8'	Solid	11/21/23 11:32	11/21/23 12:49	8'
890-5671-8	R08 7'	Solid	11/21/23 10:45	11/21/23 12:49	7'





Houston, TX (281) 240-4200, Dallas, TX (214) 902-09300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:						Joseph Guesnier	Bill to: (if different)						Spur
Company Name:						Terracon	Company Name:						
Address:						4526 W. Pierce St	Address:						
City, State ZIP:						Carlsbad NM, 88220	City, State ZIP:						
Phone:						(806)-300-0140	Email:						Gus Sanchez@Terracon.com; Travis Case@Terracon.com; Joseph Guesnie@Terracon.com
Project Name:						Muskogon	Turn Around						
Project Number:						KH237044	☒ Routine ☐ Rush						
Project Location:							Due Date:						
Sampler's Name:						Gus Sanchez	TAT starts the day received by the lab, if received by 4:30pm						
P.O.#:													
SAMPLE RECEIPT						Tamp Blank: ☒ Yes ☒ No Wettest: Yes No							
Samples Received Intact:						☒ Yes ☐ No	Thermometer ID:						Time 7
Cooler Custody Seals:						Yes No N/A	Correction Factor:						-0.2
Sample Custody Seals:						Yes No N/A	Temperature Reading:						26
Total Containers:							Corrected Temperature:						29
Sample Identification						Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	
C10	0.5'	Soil	11/20	4:31	0.5'	G	1	X	X	X	Chloride (EPA 300)		
C10	2'	Soil		4:36	2'	G	1	X	X	X	BTEX (8021 B)		
B06	0.5'	Soil		4:47	0.5'	G	1	X	X	X	TPH (8015)		
B06	2'	Soil		4:47	2'	G	1	X	X	X			
G04	0.5'	Soil		4:46	0.5'	G	1	X	X	X			
G04	2'	Soil		4:59	2'	G	1	X	X	X			
I07	8'	Soil	11/21	11:32	8'	G	1	X	X	X			
R08	2'	Soil		10:45	2'	G	1	X	X	X			
		Soil						X	X	X			
		Soil						X	X	X			
Total 2007 / 6010 2008 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn													
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471													
Notice: Signature of this document and relinquishment of sample constitutes a valid purchase order from client company to Eurofins Xeno. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xeno will be liable only for the cost of samples and shall not assume any responsibility for any losses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xeno. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xeno, 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			
B Miller		Sures		11/21 1249									
3				4									
5				6									

Work Order Comments

Program: ☐ UST/PST ☐ PBP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

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

Deliverables: EDD ☐ ADAPT ☐ Other:

ANALYSIS REQUEST

Barcode: 890-5671 Chair of Custody

Preservative Codes
None: NO DI Water: H₂O
Cool: Cool MeOH: Me
HCL: HC HNO₃: HN
H₂SO₄: H₂ NaOH: Na
H₃PO₄: HP
NaHSO₄: NABIS
Na₂S₂O₅: NASO₃
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SARL

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 890-5671-1

SDG Number: KH237044

Login Number: 5671

List Number: 1

Creator: Bruns, Shannon

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.	N/A	Refer to Job Narrative for details.
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: Terracon Consulting Eng & Scientists

Job Number: 890-5671-1

SDG Number: KH237044

Login Number: 5671

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 11/28/23 11:33 AM

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



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 31, 2024

JOSEPH GUESNIER
TERRACON CONSULTANTS
5827 50TH ST. SUITE 1
LUBBOCK, TX 79424

RE: MUSKEGON

Enclosed are the results of analyses for samples received by the laboratory on 05/28/24 11:14.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly distinguishable.

Mike Snyder For Celey D. Keene
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 05/28/2024
 Reported: 05/31/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 05/24/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Alyssa Parras

Sample ID: I 04 - FS 3' (H242942-01)**BTEX 8021B****mg/kg****Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/29/2024	ND	1.95	97.4	2.00	5.67	
Toluene*	<0.050	0.050	05/29/2024	ND	2.09	105	2.00	5.29	
Ethylbenzene*	<0.050	0.050	05/29/2024	ND	2.10	105	2.00	5.45	
Total Xylenes*	<0.150	0.150	05/29/2024	ND	6.40	107	6.00	4.76	
Total BTEX	<0.300	0.300	05/29/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B**mg/kg****Analyzed By: CT**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	05/31/2024	ND	448	112	400	3.51	

TPH 8015M**mg/kg****Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/30/2024	ND	203	101	200	2.12	
DRO >C10-C28*	<10.0	10.0	05/30/2024	ND	198	99.1	200	1.02	
EXT DRO >C28-C36	<10.0	10.0	05/30/2024	ND					

Surrogate: 1-Chlorooctane 96.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 05/28/2024
 Reported: 05/31/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 05/24/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Alyssa Parras

Sample ID: I 04- SW 0 - 3' (H242942-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/29/2024	ND	1.95	97.4	2.00	5.67	
Toluene*	<0.050	0.050	05/29/2024	ND	2.09	105	2.00	5.29	
Ethylbenzene*	<0.050	0.050	05/29/2024	ND	2.10	105	2.00	5.45	
Total Xylenes*	<0.150	0.150	05/29/2024	ND	6.40	107	6.00	4.76	
Total BTEX	<0.300	0.300	05/29/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	05/31/2024	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/30/2024	ND	203	101	200	2.12	
DRO >C10-C28*	<10.0	10.0	05/30/2024	ND	198	99.1	200	1.02	
EXT DRO >C28-C36	<10.0	10.0	05/30/2024	ND					

Surrogate: 1-Chlorooctane 93.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 05/28/2024
 Reported: 05/31/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 05/24/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Alyssa Parras

Sample ID: J 07 - FS 0 - 3' (H242942-03)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/29/2024	ND	1.95	97.4	2.00	5.67	
Toluene*	<0.050	0.050	05/29/2024	ND	2.09	105	2.00	5.29	
Ethylbenzene*	<0.050	0.050	05/29/2024	ND	2.10	105	2.00	5.45	
Total Xylenes*	<0.150	0.150	05/29/2024	ND	6.40	107	6.00	4.76	
Total BTEX	<0.300	0.300	05/29/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	880	16.0	05/31/2024	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/30/2024	ND	203	101	200	2.12	
DRO >C10-C28*	<10.0	10.0	05/30/2024	ND	198	99.1	200	1.02	
EXT DRO >C28-C36	<10.0	10.0	05/30/2024	ND					

Surrogate: 1-Chlorooctane 91.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 05/28/2024
 Reported: 05/31/2024
 Project Name: MUSKEGON
 Project Number: KH237044
 Project Location: SPUR

Sampling Date: 05/24/2024
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Alyssa Parras

Sample ID: J 07 - SW 0 - 3' (H242942-04)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/29/2024	ND	1.95	97.4	2.00	5.67		
Toluene*	<0.050	0.050	05/29/2024	ND	2.09	105	2.00	5.29		
Ethylbenzene*	<0.050	0.050	05/29/2024	ND	2.10	105	2.00	5.45		
Total Xylenes*	<0.150	0.150	05/29/2024	ND	6.40	107	6.00	4.76		
Total BTEX	<0.300	0.300	05/29/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	05/30/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/30/2024	ND	203	101	200	2.12	
DRO >C10-C28*	<10.0	10.0	05/30/2024	ND	198	99.1	200	1.02	
EXT DRO >C28-C36	<10.0	10.0	05/30/2024	ND					

Surrogate: 1-Chlorooctane 87.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a horizontal line.

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

Closure Documentation
Muskegon 16 State #001 Battery | Eddy County, New Mexico
September 10, 2024, | Terracon Project No. KH237044



APPENDIX E – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the Scope of Work agreed with you, Spur Energy Partners LLC, as reflected in your Bid Request Form for NMOCD Incident No. nAPP2329731764.

Additional Scope Limitations

The development of this report is based upon information provided by Spur Energy Partners LLC and Terracon's remediation and construction services line. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by Spur Energy Partners LLC. The data, interpretations, findings, and recommendations are based solely upon reformation executed within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Spur Energy Partners LLC, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Spur Energy Partners LLC and Terracon. Any unauthorized distribution or reuse is at Spur Energy Partners LLC sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Spur Energy Partners LLC and Terracon's Master Services Agreement. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Spur Energy Partners LLC and all relying parties unless otherwise agreed in writing.

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Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 400321

QUESTIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 400321
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2329731764
Incident Name	NAPP2329731764 MUSKEGON 16 ST COM #001 BATTERY @ 30-015-27108
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-015-27108] MUSKEGON 16 STATE COM #001

Location of Release Source	
Please answer all the questions in this group.	
Site Name	MUSKEGON 16 ST COM #001 BATTERY
Date Release Discovered	10/23/2023
Surface Owner	State

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion Pump Produced Water Released: 20 BBL Recovered: 18 BBL Lost: 2 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	CORROSION OF A PUMP CAUSED A PRODUCED WATER RELEASE INTO LINED CONTAINMENT AND ONTO THE LOCATION PAD

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QUESTIONS, Page 2

Action 400321

QUESTIONS (continued)

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 400321
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release	<i>Unavailable.</i>
<i>With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.</i>	

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	N/A

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Katherine Purvis Title: EHS Coordinator Email: katherine.purvis@spurenergy.com Date: 11/07/2024
--	---

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QUESTIONS, Page 3

Action 400321

QUESTIONS (continued)

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID:
	328947
	Action Number:
	400321
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS**Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	15700
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	2946
GRO+DRO (EPA SW-846 Method 8015M)	2710
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	05/20/2024
On what date will (or did) the final sampling or liner inspection occur	05/24/2024
On what date will (or was) the remediation complete(d)	05/27/2024
What is the estimated surface area (in square feet) that will be reclaimed	10763
What is the estimated volume (in cubic yards) that will be reclaimed	2800
What is the estimated surface area (in square feet) that will be remediated	400
What is the estimated volume (in cubic yards) that will be remediated	50

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 4

Action 400321

QUESTIONS (continued)

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 400321
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	LEA LAND LANDFILL [fEEM0112342028]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: Katherine Purvis Title: EHS Coordinator Email: katherine.purvis@spurenergy.com Date: 11/07/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 400321

QUESTIONS (continued)

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 400321
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 400321

QUESTIONS (continued)

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID:
	328947
	Action Number:
	400321
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	347014
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	05/24/2024
What was the (estimated) number of samples that were to be gathered	4
What was the sampling surface area in square feet	400

Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	400
What was the total volume (cubic yards) remediated	50
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	400
What was the total volume (in cubic yards) reclaimed	50
Summarize any additional remediation activities not included by answers (above)	n/a

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 (in .pdf format) 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.

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.

I hereby agree and sign off to the above statement	Name: Katherine Purvis Title: EHS Coordinator Email: katherine.purvis@spurenergy.com Date: 11/07/2024
--	---

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QUESTIONS, Page 7

Action 400321

QUESTIONS (continued)

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 400321
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 400321

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 400321
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2329731764 MUSKEGON 16 ST COM #001 BATTERY, thank you. This Remediation Closure Report is approved.	12/17/2024