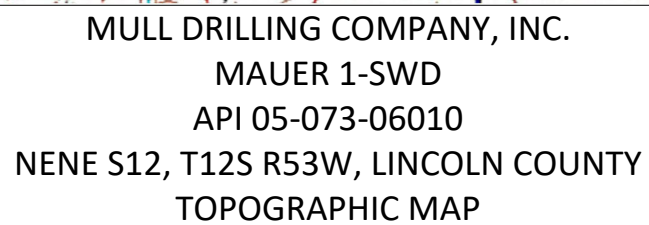




FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Soil Sample Location Map



Location Boundary



0 ft 350 ft 700 ft



Prepared By:
Ardor Environmental LLC

December 27, 2023



MULL DRILLING COMPANY, INC.
 MAUER 1-SWD
 API 05-073-06010
 NENE S12, T12S R53W, LINCOLN COUNTY
 2023 SOIL SAMPLE LOCATIONS

Legend



Soil Sample Locations

Soil Samples Collected 10/24/2023



Prepared By:
 Ardor Environmental LLC

December 27, 2023



TABLES

Table 1: 2022 Analytical Tables

Table 2: 2023 Analytical Tables

Table 915-1 Mauer Results		12/1/2022							
CLEANUP CONCENTRATIONS		SP 1 0'-1'	SP 1 4'	SP2 0'-1'	SP 2 4'	SP 3 0'-1'	SP 4 0'-1'	SP 5 0'-1' (Background)	SP 6 0'-1'
Contaminant of Concern	Concentrations	39.021733; - 103.2777094	39.021733; - 103.2777094	39.021899;- 103.277024	39.021899;- 103.277024	39.021740; - 103.277285	39.021994; - 103.277227	39.021922; - 103.276682	39.022022; - 103.276940
Soil TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	500mg/kg	48.6	ND	41.5	ND	64.6	556.8	8.2J	5.2J
PID READING		0.0 ppm	0.0 ppm	0.0 ppm	0.0 ppm	0.0 ppm	0.0 ppm	0.0 ppm	0.0 ppm
Soil Suitability for Reclamation									
Electrical conductivity (EC) (by saturated paste method)	<4mmhos/cm	11.2	4.11	0.829	1.71	15.1	1.68	1.42	0.479
Sodium adsorption ratio (SAR) (by saturated paste method)	<6	11.6	17.4	1.27	19	18.4	7.45	1.94	3.75
pH (by saturated paste method)	6–8.3	8.47	8.27	8.97	8.82	7.59	7.81	7.97	8.88
boron (hot water soluble soil extract)	2mg/l	0.469	0.699	0.184J	1.16	1.41	0.34	0.57	0.319
Organic Compounds in Groundwater									
benzene	5µg/l	NA	NA	NA	NA	NA	NA	NA	NA
toluene	560 to 1,000µg/l	NA	NA	NA	NA	NA	NA	NA	NA
ethylbenzene	700µg/l	NA	NA	NA	NA	NA	NA	NA	NA
xlenes (sum of o-, m- and p- isomers = total xylenes)	1,400 to 10,000µg/l	NA	NA	NA	NA	NA	NA	NA	NA
naphthalene	140µg/l	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA	NA	NA	NA
Groundwater Inorganic Parameters									
total dissolved solids (TDS)	<1.25 X local background	NA	NA	NA	NA	NA	NA	NA	NA
chloride ion	250mg/l or <1.25 X local background	NA	NA	NA	NA	NA	NA	NA	NA
sulfate ion	250mg/l or <1.25 X local background	NA	NA	NA	NA	NA	NA	NA	NA

Soils	Residential Soil Screening Level Concentrations (mg/kg)	Protection of Groundwater Soil Screening Level Concentrations (mg/kg)								
Organic Compounds in Soils										
benzene	1.2	0.0026 (M)	0.00070J	ND	ND	ND	ND	0.0012J	ND	ND
toluene	490	0.69 (M)	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	5.8	0.78 (M)	ND	ND	ND	ND	ND	ND	ND	ND
xylenes (sum of o-, m- and p- isomers = total xylenes)	58	9.9 (M)	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-trimethylbenzene	30	0.0081 (R)	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-trimethylbenzene	27	0.0087 (R)	ND	ND	ND	ND	ND	ND	ND	ND
acenaphthene	360	0.55 (R)	ND	ND	ND	ND	ND	ND	ND	ND
anthracene	1800	5.8 (R)	ND	ND	0.0044	ND	ND	0.0031J	ND	ND
benz(a)anthracene	1.1	0.011 (R)	0.0031J	ND	0.0023J	ND	ND	ND	ND	ND
benzo(b)fluoranthene	1.1	0.3 (R)	ND	ND	ND	ND	ND	ND	ND	ND
benzo(k)fluoranthene	11	2.9 (R)	ND	ND	ND	ND	ND	ND	ND	ND
benzo(a)pyrene	0.11	0.24 (M)	ND	ND	ND	0.0022J	ND	ND	ND	ND
chrysene	110	9 (R)	ND	ND	ND	ND	0.0024J	ND	ND	ND
dibenzo(a,h)anthracene	0.11	0.096 (R)	ND	ND	ND	ND	ND	ND	ND	ND
fluoranthene	240	8.9 (R)	ND	ND	0.012	0.0032J	0.0025J	ND	ND	ND
fluorene	240	0.54 (R)	ND	ND	ND	ND	ND	ND	ND	ND
indeno(1,2,3-cd)pyrene	1.1	0.98 (R)	ND	ND	ND	ND	ND	ND	ND	ND
1-methylnaphthalene	18	0.006 (R)	ND	ND	ND	ND	ND	ND	ND	ND
2-methylnaphthalene	24	0.019 (R)	ND	ND	ND	ND	ND	ND	ND	ND
naphthalene	2	0.0038 (R)	ND	ND	ND	ND	ND	ND	ND	ND
pyrene	180	1.3 (R)	ND	ND	ND	0.0027J	0.0024J	ND	ND	ND
Metals in Soils										
arsenic	0.68	0.29 (M)	3.9	8.2	8.6	7.3	7.6	6.9	7.7	6.7
barium	15000	82 (M)	177	176	210	178	554	164	170	174
cadmium	71	0.38 (M)	0.29J	0.68	0.65	0.6	0.58	0.52J	0.55	0.51
chromium (VI)	0.3	0.00067 (R)	0.636J	ND	0.354J	ND	ND	0.276J	ND	ND
copper	3100	46 (M)	6.3	17.5	14.1	13.3	13.8	11.7	13.3	12.3
lead	400	14 (M)	6.6	12.7	16.7	11.4	12.7	12.8	11.2	9.8
nickel	1500	26 (R)	7.1	15	12.5	12.6	12.4	11.1	12.3	11.7
selenium	390	0.26 (M)	0.34J	0.44J	ND	0.58J	0.34J	0.49J	0.50J	0.52J
silver	390	0.8 (R)	ND	ND	ND	ND	ND	ND	ND	ND
zinc	23000	370 (R)	23.6	55.4	50.4	45.9	45.2	42.2	47.5	37.4

The letter “(R)” following a protection of Groundwater soil screening level indicates the concentration is derived from a risk-based approach. The letter “(M)” following a protection of Groundwater soil screening level indicates the concentration is derived from the drinking water MCL.

Quantifier "J" indicated analyte is present at an estimated concentration between the MDL and Reporting Limit.

Quantifier "U" indicates analyzed but not detected above the MDL.

Values presented in **BOLD** contained concentrations exceeding ECMC Table 915-1 Residential Soil Screening Level limits, but are within Background results.

Values presented in **BOLD** contained concentrations exceeding ECMC Table 915-1 Residential Soil Screening Level limits, and Background results.

*Arsenic is naturally occurring in Colorado at concentrations above ECMC Table 915-1, Local Clean-Up Level (6.97 mg/kg) is 1.25xBG (5.67 mg/kg)

Table 915-1 Mauer Results		10/24/2023									
Sample Name		SP3 4'	SP4 4'	SP7 0'-1'	SP8 0'-1'	SP9 0'-1' (Background)	SP10 0'-1' (Background)	SP11 0'-1' (Background)	SP12 0'-1' (Background)	SP13 0'-1' (Background)	SP14 8'
Lat, Long		39.021754, -103.277287	39.022009, -103.277169	39.021765, -103.276912	39.021598, -103.277244	39.021544, -103.277364	39.021709, -103.277450	39.021878, -103.277441	39.022084, -103.277222	39.022132, -103.276979	39.021892, -103.277096
CLEANUP CONCENTRATIONS											
Contaminant of Concern	Concentrations										
Soil TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	500mg/kg	21	2900	31	73	18J	7.1J	6.0J	7.1J	18J	10J
PID READING		0.1 ppm	0.0 ppm	0.1 ppm	0.1 ppm	0.0 ppm	0.0 ppm	0.2 ppm	0.1 ppm	0.0 ppm	0.2 ppm
Soil Suitability for Reclamation											
Electrical conductivity (EC) (by saturated paste method)	<4mmhos/cm	5.3	8.0	0.65	28	1.3	0.94	1.8	0.60	0.64	4.6
Sodium adsorption ratio (SAR) (by saturated paste method)	<6	12	9.7	1.6	25	5.6	2.3	5.6	2.2	0.10	53
pH (by saturated paste method)	6–8.3	9.34	8.76	8.29	7.15	8.20	8.55	10.1	7.49	7.35	8.45
boron (hot water soluble soil extract)	2mg/l	0.80	2.5	0.81	2.2	0.85	0.63	0.86	0.71	0.49	4.7
Organic Compounds in Groundwater											
benzene	5µg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
toluene	560 to 1,000µg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ethylbenzene	700µg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
xylene (sum of o-, m- and p- isomers = total xylenes)	1,400 to 10,000µg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
naphthalene	140µg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Groundwater Inorganic Parameters											
total dissolved solids (TDS)	<1.25 X local background	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
chloride ion	250mg/l or <1.25 X local background	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sulfate ion	250mg/l or <1.25 X local background	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Soils	Residential Soil Screening Level Concentrations (mg/kg)	Protection of Groundwater Soil Screening Level Concentrations (mg/kg)	SP3 4'	SP4 4'	SP7	SP8	SP9	SP10	SP11	SP12	SP13	SP14 8'
Organic Compounds in Soils												
benzene	1.2	0.0026 (M)	U	U	U	U	U	U	U	U	U	U
toluene	490	0.69 (M)	U	U	U	U	U	U	U	U	U	U
ethylbenzene	5.8	0.78 (M)	U	U	U	U	U	U	U	U	U	U
xylenes (sum of o-, m- and p- isomers = total xylenes)	58	9.9 (M)	U	U	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	30	0.0081 (R)	U	U	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	27	0.0087 (R)	U	U	U	U	U	U	U	U	U	U
acenaphthene	360	0.55 (R)	U	U	U	U	U	U	U	U	U	U
anthracene	1800	5.8 (R)	U	U	U	U	U	U	U	U	U	U
benz(a)anthracene	1.1	0.011 (R)	U	0.24	U	U	U	U	U	U	U	U
benzo(b)fluoranthene	1.1	0.3 (R)	U	U	U	U	U	U	U	U	U	U
benzo(k)fluoranthene	11	2.9 (R)	U	U	U	U	U	U	U	U	U	U
benzo(a)pyrene	0.11	0.24 (M)	U	U	U	U	U	U	U	U	U	U
chrysene	110	9 (R)	U	0.26	U	U	U	U	U	U	U	U
dibenzo(a,h)anthracene	0.11	0.096 (R)	U	U	U	U	U	U	U	U	U	U
fluoranthene	240	8.9 (R)	U	0.045	U	U	U	U	U	U	U	U
fluorene	240	0.54 (R)	U	0.082	U	U	U	U	U	U	U	U
indeno(1,2,3-cd)pyrene	1.1	0.98 (R)	U	U	U	U	U	U	U	U	U	U
1-methylnaphthalene	18	0.006 (R)	U	U	U	U	U	U	U	U	U	U
2-methylnaphthalene	24	0.019 (R)	U	U	U	U	U	U	U	U	U	U
naphthalene	2	0.0038 (R)	U	.0047J	U	U	U	U	U	U	U	U
pyrene	180	1.3 (R)	U	0.061	U	U	U	U	U	U	U	U
Metals in Soils												
arsenic	0.68	0.29 (M)	7.1	6.1	5.9	5.3	4.8	5.3	5.8	5.5	4.3	6.3
barium	15000	82 (M)	110	190	330	230	140	170	130	110	400	230
cadmium	71	0.38 (M)	0.084 J	0.092	0.057J	0.072J	0.11	0.089J	0.089J	0.11	0.059J	U
chromium (VI)	0.3	0.00067 (R)	U	U	U	U	U	U	U	U	U	U
copper	3100	46 (M)	12	12	9.4	10	8.8	9.2	8.6	7.9	8.3	13
lead	400	14 (M)	15	15	12	14	13	12	12	12	9.3	15
nickel	1500	26 (R)	12	9.4	9.6	9.9	8.8	9.1	9.3	7.7	6.8	13
selenium	390	0.26 (M)	0.74	0.35J	0.65	0.53	0.46	0.56	0.42	0.53	0.69	0.48
silver	390	0.8 (R)	U	U	U	0.040J	U	U	U	U	U	U
zinc	23000	370 (R)	43	67	34	36	33	33	33	28	27	47

The letter “(R)” following a protection of Groundwater soil screening level indicates the concentration is derived from a risk-based approach. The letter “(M)” following a protection of Groundwater soil screening level indicates the concentration is derived from the drinking water MCL.

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*Arsenic is naturally occurring in Colorado at concentrations above ECMC Table 915-1, Local Clean-Up Level (6.97 mg/kg) is 1.25xBG (5.67 mg/kg)



ATTACHMENT A

Laboratory Analytical Reports

December 20, 2022

James Beilman
Mull Drilling Company
1700 N Waterfront Pkwy
Bld. 1200
Wichita, KS 67206

RE: Project: MAUER 915-1
Pace Project No.: 60416937

Dear James Beilman:

Enclosed are the analytical results for sample(s) received by the laboratory on December 02, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet
- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather Wilson
heather.wilson@pacelabs.com
1(913)563-1407
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: MAUER 915-1

Pace Project No.: 60416937

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 22-031-0

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212023-1

Oklahoma Certification #: 2022-057

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-21-15

Utah Certification #: KS000212022-12

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MAUER 915-1

Pace Project No.: 60416937

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60416937001	SP1	Solid	12/01/22 09:00	12/02/22 10:57
60416937002	SP1 4'	Solid	12/01/22 09:15	12/02/22 10:57
60416937003	SP2	Solid	12/01/22 09:20	12/02/22 10:57
60416937004	SP2 4'	Solid	12/01/22 09:35	12/02/22 10:57
60416937005	SP3	Solid	12/01/22 09:45	12/02/22 10:57
60416937006	SP4	Solid	12/01/22 09:30	12/02/22 10:57
60416937007	SP5	Solid	12/01/22 08:50	12/02/22 10:57
60416937008	SP6	Solid	12/01/22 09:10	12/02/22 10:57

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MAUER 915-1

Pace Project No.: 60416937

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60416937001	SP1	EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	ABL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
		EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
60416937002	SP1 4'	6010B-NE493 Ch 2	ABL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
		EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	ABL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
60416937003	SP2	EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MAUER 915-1

Pace Project No.: 60416937

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60416937004	SP2 4'	EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
		EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	ABL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ABL	1	PAN
60416937005	SP3	EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	ABL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ABL	1	PAN
		EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
60416937006	SP4	6010B-NE493 Ch 2	ABL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MAUER 915-1

Pace Project No.: 60416937

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60416937007	SP5	EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ABL	1	PAN
		EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	ABL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ABL	1	PAN
60416937008	SP6	EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	ABL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ABL	1	PAN

PAN = Pace National - Mt. Juliet

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP1 **Lab ID: 60416937001** Collected: 12/01/22 09:00 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	27.2	mg/kg	20.5	4.6	1	12/05/22 15:33	12/10/22 19:12		
TPH-DRO (C10-C28)	21.4	mg/kg	10.2	4.6	1	12/05/22 15:33	12/10/22 19:12		B
Surrogates									
n-Tetracosane (S)	90	%	31-152		1	12/05/22 15:33	12/10/22 19:12	646-31-1	
p-Terphenyl (S)	76	%	46-130		1	12/05/22 15:33	12/10/22 19:12	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	ND	mg/kg	10.0	1.2	1	12/08/22 10:11	12/08/22 19:23		
Surrogates									
4-Bromofluorobenzene (S)	98	%	66-130		1	12/08/22 10:11	12/08/22 19:23	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	469	ug/L	200	16.7	1	12/09/22 17:57	12/16/22 13:20	7440-42-8H	
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	177	mg/kg	0.42	0.083	1	12/07/22 14:03	12/14/22 19:41	7440-39-3	M1,R1
Cadmium	0.29J	mg/kg	0.42	0.060	1	12/07/22 14:03	12/14/22 19:41	7440-43-9	
Copper	6.3	mg/kg	1.7	0.34	1	12/07/22 14:03	12/14/22 19:41	7440-50-8	
Lead	6.6	mg/kg	0.83	0.24	1	12/07/22 14:03	12/14/22 19:41	7439-92-1	
Nickel	7.1	mg/kg	0.42	0.21	1	12/07/22 14:03	12/14/22 19:41	7440-02-0	
Selenium	0.34J	mg/kg	1.2	0.25	1	12/07/22 14:03	12/14/22 19:41	7782-49-2	M1
Silver	ND	mg/kg	0.58	0.090	1	12/07/22 14:03	12/14/22 19:41	7440-22-4	
Zinc	23.6	mg/kg	8.3	0.18	1	12/07/22 14:03	12/14/22 19:41	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	3.9	mg/kg	0.83	0.19	10	12/07/22 14:03	12/15/22 16:36	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 11:21	83-32-9	
Anthracene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 11:21	120-12-7	
Benzo(a)anthracene	0.0031J	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 11:21	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0034	0.0014	1	12/05/22 15:35	12/09/22 11:21	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 11:21	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 11:21	207-08-9	
Chrysene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 11:21	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 11:21	53-70-3	
Fluoranthene	ND	mg/kg	0.0034	0.0024	1	12/05/22 15:35	12/09/22 11:21	206-44-0	
Fluorene	ND	mg/kg	0.0034	0.0022	1	12/05/22 15:35	12/09/22 11:21	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 11:21	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAUER 915-1

Pace Project No.: 60416937

Sample: SP1 **Lab ID: 60416937001** Collected: 12/01/22 09:00 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0034	0.0016	1	12/05/22 15:35	12/09/22 11:21	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0034	0.0021	1	12/05/22 15:35	12/09/22 11:21	91-57-6	
Naphthalene	ND	mg/kg	0.0034	0.0017	1	12/05/22 15:35	12/09/22 11:21	91-20-3	
Pyrene	ND	mg/kg	0.0034	0.0022	1	12/05/22 15:35	12/09/22 11:21	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	63	%	40-120		1	12/05/22 15:35	12/09/22 11:21	321-60-8	
Terphenyl-d14 (S)	75	%	45-130		1	12/05/22 15:35	12/09/22 11:21	1718-51-0	
8260C MSV 5035A Low Level									
Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.00070J	mg/kg	0.0053	0.00049	1	12/05/22 11:13	12/05/22 13:39	71-43-2	
Ethylbenzene	ND	mg/kg	0.0053	0.00092	1	12/05/22 11:13	12/05/22 13:39	100-41-4	
Toluene	ND	mg/kg	0.021	0.0047	1	12/05/22 11:13	12/05/22 13:39	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0053	0.00073	1	12/05/22 11:13	12/05/22 13:39	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0053	0.00046	1	12/05/22 11:13	12/05/22 13:39	108-67-8	
Xylene (Total)	ND	mg/kg	0.016	0.0039	1	12/05/22 11:13	12/05/22 13:39	1330-20-7	
Surrogates									
Toluene-d8 (S)	110	%	80-120		1	12/05/22 11:13	12/05/22 13:39	2037-26-5	
4-Bromofluorobenzene (S)	104	%	83-119		1	12/05/22 11:13	12/05/22 13:39	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	12/05/22 11:13	12/05/22 13:39	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	3.1	%	0.50	0.50	1		12/05/22 13:59		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	94.1	%			1	12/07/22 15:25	12/07/22 15:40		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	0.636J	mg/kg	1.06	0.271	1	12/07/22 01:10	12/08/22 04:16	18540-29-9	J
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	8.47	Std. Units		0.10	1	12/07/22 08:30	12/07/22 10:24		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	11200	umhos/cm	10.0	10.0	1	12/10/22 11:00	12/13/22 08:10		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	11.6				1	12/15/22 12:09	12/15/22 12:09	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP1 4' **Lab ID: 60416937002** Collected: 12/01/22 09:15 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	ND	mg/kg	23.6	5.3	1	12/05/22 15:33	12/07/22 00:47		
TPH-DRO (C10-C28)	ND	mg/kg	11.8	5.3	1	12/05/22 15:33	12/07/22 00:47		CH
Surrogates									
n-Tetracosane (S)	86	%	31-152		1	12/05/22 15:33	12/07/22 00:47	646-31-1	
p-Terphenyl (S)	76	%	46-130		1	12/05/22 15:33	12/07/22 00:47	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	ND	mg/kg	13.1	1.6	1	12/08/22 10:11	12/08/22 19:38		
Surrogates									
4-Bromofluorobenzene (S)	94	%	66-130		1	12/08/22 10:11	12/08/22 19:38	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	669	ug/L	200	16.7	1	12/09/22 17:57	12/16/22 13:23	7440-42-8H	
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	176	mg/kg	0.52	0.10	1	12/07/22 14:03	12/14/22 19:47	7440-39-3	
Cadmium	0.68	mg/kg	0.52	0.076	1	12/07/22 14:03	12/14/22 19:47	7440-43-9	
Copper	17.5	mg/kg	2.1	0.43	1	12/07/22 14:03	12/14/22 19:47	7440-50-8	
Lead	12.7	mg/kg	1.0	0.30	1	12/07/22 14:03	12/14/22 19:47	7439-92-1	
Nickel	15.0	mg/kg	0.52	0.26	1	12/07/22 14:03	12/14/22 19:47	7440-02-0	
Selenium	0.44J	mg/kg	1.6	0.32	1	12/07/22 14:03	12/14/22 19:47	7782-49-2	
Silver	ND	mg/kg	0.73	0.11	1	12/07/22 14:03	12/14/22 19:47	7440-22-4	
Zinc	55.4	mg/kg	10.4	0.22	1	12/07/22 14:03	12/14/22 19:47	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	8.2	mg/kg	1.0	0.24	10	12/07/22 14:03	12/15/22 16:38	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0039	0.0021	1	12/05/22 15:35	12/09/22 11:39	83-32-9	
Anthracene	ND	mg/kg	0.0039	0.0020	1	12/05/22 15:35	12/09/22 11:39	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0039	0.0022	1	12/05/22 15:35	12/09/22 11:39	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0039	0.0016	1	12/05/22 15:35	12/09/22 11:39	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0039	0.0022	1	12/05/22 15:35	12/09/22 11:39	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0039	0.0022	1	12/05/22 15:35	12/09/22 11:39	207-08-9	
Chrysene	ND	mg/kg	0.0039	0.0021	1	12/05/22 15:35	12/09/22 11:39	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0039	0.0021	1	12/05/22 15:35	12/09/22 11:39	53-70-3	
Fluoranthene	ND	mg/kg	0.0039	0.0027	1	12/05/22 15:35	12/09/22 11:39	206-44-0	
Fluorene	ND	mg/kg	0.0039	0.0025	1	12/05/22 15:35	12/09/22 11:39	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0039	0.0020	1	12/05/22 15:35	12/09/22 11:39	193-39-5	

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP1 4' **Lab ID: 60416937002** Collected: 12/01/22 09:15 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0039	0.0019	1	12/05/22 15:35	12/09/22 11:39	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0039	0.0024	1	12/05/22 15:35	12/09/22 11:39	91-57-6	
Naphthalene	ND	mg/kg	0.0039	0.0020	1	12/05/22 15:35	12/09/22 11:39	91-20-3	
Pyrene	ND	mg/kg	0.0039	0.0026	1	12/05/22 15:35	12/09/22 11:39	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	67	%	40-120		1	12/05/22 15:35	12/09/22 11:39	321-60-8	
Terphenyl-d14 (S)	80	%	45-130		1	12/05/22 15:35	12/09/22 11:39	1718-51-0	
8260C MSV 5035A Low Level									
Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0014J	mg/kg	0.0069	0.00063	1	12/05/22 11:13	12/05/22 13:59	71-43-2	
Ethylbenzene	ND	mg/kg	0.0069	0.0012	1	12/05/22 11:13	12/05/22 13:59	100-41-4	
Toluene	ND	mg/kg	0.027	0.0061	1	12/05/22 11:13	12/05/22 13:59	108-88-3	
1,2,4-Trimethylbenzene	0.0011J	mg/kg	0.0069	0.00095	1	12/05/22 11:13	12/05/22 13:59	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0069	0.00060	1	12/05/22 11:13	12/05/22 13:59	108-67-8	
Xylene (Total)	ND	mg/kg	0.021	0.0051	1	12/05/22 11:13	12/05/22 13:59	1330-20-7	
Surrogates									
Toluene-d8 (S)	109	%	80-120		1	12/05/22 11:13	12/05/22 13:59	2037-26-5	
4-Bromofluorobenzene (S)	104	%	83-119		1	12/05/22 11:13	12/05/22 13:59	460-00-4	
1,2-Dichlorobenzene-d4 (S)	100	%	80-120		1	12/05/22 11:13	12/05/22 13:59	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	15.9	%	0.50	0.50	1		12/05/22 13:59		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	84.4	%			1	12/07/22 15:25	12/07/22 15:40		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.18	0.302	1	12/07/22 01:10	12/08/22 04:22	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	8.27	Std. Units		0.10	1	12/07/22 08:30	12/07/22 10:24		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	4110	umhos/cm	10.0	10.0	1	12/07/22 09:00	12/07/22 11:40		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	17.4				1	12/15/22 12:11	12/15/22 12:11	SAR	

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP2 **Lab ID: 60416937003** Collected: 12/01/22 09:20 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	ND	mg/kg	23.5	5.3	1	12/05/22 15:33	12/07/22 19:30		
TPH-DRO (C10-C28)	41.5	mg/kg	11.7	5.3	1	12/05/22 15:33	12/07/22 19:30		B
Surrogates									
n-Tetracosane (S)	83	%	31-152		1	12/05/22 15:33	12/07/22 19:30	646-31-1	
p-Terphenyl (S)	75	%	46-130		1	12/05/22 15:33	12/07/22 19:30	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	ND	mg/kg	13.3	1.6	1	12/08/22 10:11	12/08/22 19:54		
Surrogates									
4-Bromofluorobenzene (S)	94	%	66-130		1	12/08/22 10:11	12/08/22 19:54	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	184J	ug/L	200	16.7	1	12/09/22 17:57	12/16/22 13:29	7440-42-8H	J
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	210	mg/kg	0.52	0.10	1	12/07/22 14:03	12/14/22 19:49	7440-39-3	
Cadmium	0.65	mg/kg	0.52	0.075	1	12/07/22 14:03	12/14/22 19:49	7440-43-9	
Copper	14.1	mg/kg	2.1	0.43	1	12/07/22 14:03	12/14/22 19:49	7440-50-8	
Lead	16.7	mg/kg	1.0	0.30	1	12/07/22 14:03	12/14/22 19:49	7439-92-1	
Nickel	12.5	mg/kg	0.52	0.26	1	12/07/22 14:03	12/14/22 19:49	7440-02-0	
Selenium	ND	mg/kg	1.5	0.32	1	12/07/22 14:03	12/14/22 19:49	7782-49-2	
Silver	ND	mg/kg	0.72	0.11	1	12/07/22 14:03	12/14/22 19:49	7440-22-4	
Zinc	50.4	mg/kg	10.3	0.22	1	12/07/22 14:03	12/14/22 19:49	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	8.6	mg/kg	1.0	0.24	10	12/07/22 14:03	12/15/22 16:41	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0039	0.0021	1	12/05/22 15:35	12/09/22 12:16	83-32-9	
Anthracene	0.0044	mg/kg	0.0039	0.0020	1	12/05/22 15:35	12/09/22 12:16	120-12-7	
Benzo(a)anthracene	0.0023J	mg/kg	0.0039	0.0021	1	12/05/22 15:35	12/09/22 12:16	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0039	0.0016	1	12/05/22 15:35	12/09/22 12:16	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0039	0.0021	1	12/05/22 15:35	12/09/22 12:16	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0039	0.0022	1	12/05/22 15:35	12/09/22 12:16	207-08-9	
Chrysene	ND	mg/kg	0.0039	0.0021	1	12/05/22 15:35	12/09/22 12:16	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0039	0.0021	1	12/05/22 15:35	12/09/22 12:16	53-70-3	
Fluoranthene	0.012	mg/kg	0.0039	0.0027	1	12/05/22 15:35	12/09/22 12:16	206-44-0	
Fluorene	ND	mg/kg	0.0039	0.0025	1	12/05/22 15:35	12/09/22 12:16	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0039	0.0020	1	12/05/22 15:35	12/09/22 12:16	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP2 **Lab ID: 60416937003** Collected: 12/01/22 09:20 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0039	0.0019	1	12/05/22 15:35	12/09/22 12:16	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0039	0.0024	1	12/05/22 15:35	12/09/22 12:16	91-57-6	
Naphthalene	ND	mg/kg	0.0039	0.0020	1	12/05/22 15:35	12/09/22 12:16	91-20-3	
Pyrene	0.0076	mg/kg	0.0039	0.0025	1	12/05/22 15:35	12/09/22 12:16	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	70	%	40-120		1	12/05/22 15:35	12/09/22 12:16	321-60-8	
Terphenyl-d14 (S)	82	%	45-130		1	12/05/22 15:35	12/09/22 12:16	1718-51-0	
8260C MSV 5035A Low Level									
Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0012J	mg/kg	0.0069	0.00063	1	12/05/22 11:13	12/05/22 14:19	71-43-2	
Ethylbenzene	ND	mg/kg	0.0069	0.0012	1	12/05/22 11:13	12/05/22 14:19	100-41-4	
Toluene	ND	mg/kg	0.028	0.0061	1	12/05/22 11:13	12/05/22 14:19	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0069	0.00095	1	12/05/22 11:13	12/05/22 14:19	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0069	0.00060	1	12/05/22 11:13	12/05/22 14:19	108-67-8	
Xylene (Total)	ND	mg/kg	0.021	0.0051	1	12/05/22 11:13	12/05/22 14:19	1330-20-7	
Surrogates									
Toluene-d8 (S)	111	%	80-120		1	12/05/22 11:13	12/05/22 14:19	2037-26-5	
4-Bromofluorobenzene (S)	104	%	83-119		1	12/05/22 11:13	12/05/22 14:19	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	12/05/22 11:13	12/05/22 14:19	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	16.5	%	0.50	0.50	1		12/05/22 13:59		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	85.4	%			1	12/07/22 15:25	12/07/22 15:40		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	0.354J	mg/kg	1.17	0.298	1	12/07/22 01:10	12/08/22 04:37	18540-29-9	J
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	8.97	Std. Units		0.10	1	12/07/22 08:30	12/07/22 10:24		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	829	umhos/cm	10.0	10.0	1	12/07/22 09:00	12/07/22 11:40		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	1.27				1	12/15/22 12:19	12/15/22 12:19	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP2 4' **Lab ID: 60416937004** Collected: 12/01/22 09:35 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	ND	mg/kg	24.6	5.5	1	12/05/22 15:33	12/07/22 01:03		
TPH-DRO (C10-C28)	ND	mg/kg	12.3	5.5	1	12/05/22 15:33	12/07/22 01:03		CH
Surrogates									
n-Tetracosane (S)	86	%	31-152		1	12/05/22 15:33	12/07/22 01:03	646-31-1	
p-Terphenyl (S)	77	%	46-130		1	12/05/22 15:33	12/07/22 01:03	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	1.9J	mg/kg	14.0	1.7	1	12/08/22 10:11	12/08/22 20:41		
Surrogates									
4-Bromofluorobenzene (S)	94	%	66-130		1	12/08/22 10:11	12/08/22 20:41	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	1160	ug/L	400	33.4	2	12/09/22 17:57	12/16/22 13:26	7440-42-8H	
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	178	mg/kg	0.42	0.084	1	12/07/22 14:03	12/14/22 19:51	7440-39-3	
Cadmium	0.60	mg/kg	0.42	0.061	1	12/07/22 14:03	12/14/22 19:51	7440-43-9	
Copper	13.3	mg/kg	1.7	0.35	1	12/07/22 14:03	12/14/22 19:51	7440-50-8	
Lead	11.4	mg/kg	0.85	0.25	1	12/07/22 14:03	12/14/22 19:51	7439-92-1	
Nickel	12.6	mg/kg	0.42	0.21	1	12/07/22 14:03	12/14/22 19:51	7440-02-0	
Selenium	0.58J	mg/kg	1.3	0.26	1	12/07/22 14:03	12/14/22 19:51	7782-49-2	
Silver	ND	mg/kg	0.59	0.092	1	12/07/22 14:03	12/14/22 19:51	7440-22-4	
Zinc	45.9	mg/kg	8.5	0.18	1	12/07/22 14:03	12/14/22 19:51	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	7.3	mg/kg	0.85	0.19	10	12/07/22 14:03	12/15/22 16:43	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0041	0.0022	1	12/05/22 15:35	12/09/22 12:34	83-32-9	
Anthracene	ND	mg/kg	0.0041	0.0021	1	12/05/22 15:35	12/09/22 12:34	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0041	0.0022	1	12/05/22 15:35	12/09/22 12:34	56-55-3	
Benzo(a)pyrene	0.0022J	mg/kg	0.0041	0.0017	1	12/05/22 15:35	12/09/22 12:34	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0041	0.0022	1	12/05/22 15:35	12/09/22 12:34	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0041	0.0023	1	12/05/22 15:35	12/09/22 12:34	207-08-9	
Chrysene	ND	mg/kg	0.0041	0.0022	1	12/05/22 15:35	12/09/22 12:34	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0041	0.0022	1	12/05/22 15:35	12/09/22 12:34	53-70-3	
Fluoranthene	0.0032J	mg/kg	0.0041	0.0028	1	12/05/22 15:35	12/09/22 12:34	206-44-0	
Fluorene	ND	mg/kg	0.0041	0.0026	1	12/05/22 15:35	12/09/22 12:34	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0041	0.0021	1	12/05/22 15:35	12/09/22 12:34	193-39-5	

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP2 4' **Lab ID: 60416937004** Collected: 12/01/22 09:35 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0041	0.0020	1	12/05/22 15:35	12/09/22 12:34	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0041	0.0025	1	12/05/22 15:35	12/09/22 12:34	91-57-6	
Naphthalene	ND	mg/kg	0.0041	0.0021	1	12/05/22 15:35	12/09/22 12:34	91-20-3	
Pyrene	0.0027J	mg/kg	0.0041	0.0027	1	12/05/22 15:35	12/09/22 12:34	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	58	%	40-120		1	12/05/22 15:35	12/09/22 12:34	321-60-8	
Terphenyl-d14 (S)	66	%	45-130		1	12/05/22 15:35	12/09/22 12:34	1718-51-0	
8260C MSV 5035A Low Level									
Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0011J	mg/kg	0.0073	0.00067	1	12/05/22 11:13	12/05/22 14:39	71-43-2	
Ethylbenzene	ND	mg/kg	0.0073	0.0013	1	12/05/22 11:13	12/05/22 14:39	100-41-4	
Toluene	ND	mg/kg	0.029	0.0065	1	12/05/22 11:13	12/05/22 14:39	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0073	0.0010	1	12/05/22 11:13	12/05/22 14:39	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0073	0.00064	1	12/05/22 11:13	12/05/22 14:39	108-67-8	
Xylene (Total)	ND	mg/kg	0.022	0.0054	1	12/05/22 11:13	12/05/22 14:39	1330-20-7	
Surrogates									
Toluene-d8 (S)	110	%	80-120		1	12/05/22 11:13	12/05/22 14:39	2037-26-5	
4-Bromofluorobenzene (S)	104	%	83-119		1	12/05/22 11:13	12/05/22 14:39	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	12/05/22 11:13	12/05/22 14:39	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	19.2	%	0.50	0.50	1		12/05/22 13:59		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	81.0	%			1	12/07/22 15:25	12/07/22 15:40		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.23	0.315	1	12/07/22 01:10	12/08/22 05:03	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	8.82	Std. Units		0.10	1	12/08/22 13:00	12/08/22 15:10		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	1710	umhos/cm	10.0	10.0	1	12/07/22 09:00	12/07/22 11:40		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	19.0				1	12/15/22 23:59	12/15/22 23:59	SAR	

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP3 **Lab ID: 60416937005** Collected: 12/01/22 09:45 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	28.2	mg/kg	22.2	5.0	1	12/05/22 15:33	12/07/22 19:38		
TPH-DRO (C10-C28)	36.4	mg/kg	11.1	5.0	1	12/05/22 15:33	12/07/22 19:38		B
Surrogates									
n-Tetracosane (S)	104	%	31-152		1	12/05/22 15:33	12/07/22 19:38	646-31-1	
p-Terphenyl (S)	89	%	46-130		1	12/05/22 15:33	12/07/22 19:38	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	ND	mg/kg	12.1	1.5	1	12/08/22 10:11	12/08/22 21:28		
Surrogates									
4-Bromofluorobenzene (S)	93	%	66-130		1	12/08/22 10:11	12/08/22 21:28	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	1410	ug/L	200	16.7	1	12/09/22 17:57	12/16/22 13:32	7440-42-8H	
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	554	mg/kg	0.50	0.099	1	12/07/22 14:03	12/14/22 20:00	7440-39-3	
Cadmium	0.58	mg/kg	0.50	0.072	1	12/07/22 14:03	12/14/22 20:00	7440-43-9	
Copper	13.8	mg/kg	2.0	0.41	1	12/07/22 14:03	12/14/22 20:00	7440-50-8	
Lead	12.7	mg/kg	1.0	0.29	1	12/07/22 14:03	12/14/22 20:00	7439-92-1	
Nickel	12.4	mg/kg	0.50	0.25	1	12/07/22 14:03	12/14/22 20:00	7440-02-0	
Selenium	0.34J	mg/kg	1.5	0.31	1	12/07/22 14:03	12/14/22 20:00	7782-49-2	
Silver	ND	mg/kg	0.70	0.11	1	12/07/22 14:03	12/14/22 20:00	7440-22-4	
Zinc	45.2	mg/kg	10	0.21	1	12/07/22 14:03	12/14/22 20:00	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	7.6	mg/kg	1.0	0.23	10	12/07/22 14:03	12/15/22 16:45	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0036	0.0020	1	12/05/22 15:35	12/09/22 12:52	83-32-9	
Anthracene	ND	mg/kg	0.0036	0.0019	1	12/05/22 15:35	12/09/22 12:52	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0036	0.0020	1	12/05/22 15:35	12/09/22 12:52	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0036	0.0015	1	12/05/22 15:35	12/09/22 12:52	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0036	0.0020	1	12/05/22 15:35	12/09/22 12:52	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0036	0.0020	1	12/05/22 15:35	12/09/22 12:52	207-08-9	
Chrysene	0.0024J	mg/kg	0.0036	0.0019	1	12/05/22 15:35	12/09/22 12:52	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0036	0.0019	1	12/05/22 15:35	12/09/22 12:52	53-70-3	
Fluoranthene	0.0025J	mg/kg	0.0036	0.0025	1	12/05/22 15:35	12/09/22 12:52	206-44-0	
Fluorene	ND	mg/kg	0.0036	0.0023	1	12/05/22 15:35	12/09/22 12:52	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0036	0.0019	1	12/05/22 15:35	12/09/22 12:52	193-39-5	

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP3 **Lab ID: 60416937005** Collected: 12/01/22 09:45 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0036	0.0017	1	12/05/22 15:35	12/09/22 12:52	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0036	0.0022	1	12/05/22 15:35	12/09/22 12:52	91-57-6	
Naphthalene	ND	mg/kg	0.0036	0.0019	1	12/05/22 15:35	12/09/22 12:52	91-20-3	
Pyrene	0.0024J	mg/kg	0.0036	0.0024	1	12/05/22 15:35	12/09/22 12:52	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	76	%	40-120		1	12/05/22 15:35	12/09/22 12:52	321-60-8	
Terphenyl-d14 (S)	89	%	45-130		1	12/05/22 15:35	12/09/22 12:52	1718-51-0	
8260C MSV 5035A Low Level									
Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.00091J	mg/kg	0.0064	0.00058	1	12/05/22 11:13	12/05/22 14:58	71-43-2	
Ethylbenzene	ND	mg/kg	0.0064	0.0011	1	12/05/22 11:13	12/05/22 14:58	100-41-4	
Toluene	ND	mg/kg	0.025	0.0057	1	12/05/22 11:13	12/05/22 14:58	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0064	0.00088	1	12/05/22 11:13	12/05/22 14:58	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0064	0.00055	1	12/05/22 11:13	12/05/22 14:58	108-67-8	
Xylene (Total)	ND	mg/kg	0.019	0.0047	1	12/05/22 11:13	12/05/22 14:58	1330-20-7	
Surrogates									
Toluene-d8 (S)	110	%	80-120		1	12/05/22 11:13	12/05/22 14:58	2037-26-5	
4-Bromofluorobenzene (S)	105	%	83-119		1	12/05/22 11:13	12/05/22 14:58	460-00-4	
1,2-Dichlorobenzene-d4 (S)	100	%	80-120		1	12/05/22 11:13	12/05/22 14:58	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	12.2	%	0.50	0.50	1		12/05/22 13:59		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	89.9	%			1	12/07/22 15:25	12/07/22 15:40		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.11	0.284	1	12/07/22 01:10	12/08/22 05:08	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	7.59	Std. Units		0.10	1	12/08/22 13:00	12/08/22 15:10		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	15100	umhos/cm	10.0	10.0	1	12/07/22 09:00	12/07/22 11:40		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	18.4				1	12/16/22 00:02	12/16/22 00:02	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP4 **Lab ID: 60416937006** Collected: 12/01/22 09:30 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	69.8	mg/kg	20.3	4.5	1	12/05/22 15:33	12/07/22 19:47		
TPH-DRO (C10-C28)	487	mg/kg	10.1	4.5	1	12/05/22 15:33	12/07/22 19:47		
Surrogates									
n-Tetracosane (S)	83	%	31-152		1	12/05/22 15:33	12/07/22 19:47	646-31-1	
p-Terphenyl (S)	73	%	46-130		1	12/05/22 15:33	12/07/22 19:47	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	ND	mg/kg	10.7	1.3	1	12/08/22 10:11	12/08/22 21:44		
Surrogates									
4-Bromofluorobenzene (S)	91	%	66-130		1	12/08/22 10:11	12/08/22 21:44	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	340	ug/L	200	16.7	1	12/09/22 17:57	12/16/22 13:35	7440-42-8H	
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	164	mg/kg	0.52	0.10	1	12/07/22 14:03	12/14/22 20:02	7440-39-3	
Cadmium	0.52J	mg/kg	0.52	0.076	1	12/07/22 14:03	12/14/22 20:02	7440-43-9	
Copper	11.7	mg/kg	2.1	0.43	1	12/07/22 14:03	12/14/22 20:02	7440-50-8	
Lead	12.8	mg/kg	1.0	0.30	1	12/07/22 14:03	12/14/22 20:02	7439-92-1	
Nickel	11.1	mg/kg	0.52	0.26	1	12/07/22 14:03	12/14/22 20:02	7440-02-0	
Selenium	0.49J	mg/kg	1.6	0.32	1	12/07/22 14:03	12/14/22 20:02	7782-49-2	
Silver	ND	mg/kg	0.73	0.11	1	12/07/22 14:03	12/14/22 20:02	7440-22-4	
Zinc	42.2	mg/kg	10.4	0.22	1	12/07/22 14:03	12/14/22 20:02	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	6.9	mg/kg	1.0	0.24	10	12/07/22 14:03	12/15/22 16:50	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:10	83-32-9	
Anthracene	0.0031J	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:10	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:10	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0034	0.0014	1	12/05/22 15:35	12/09/22 13:10	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:10	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:10	207-08-9	
Chrysene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:10	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:10	53-70-3	
Fluoranthene	ND	mg/kg	0.0034	0.0023	1	12/05/22 15:35	12/09/22 13:10	206-44-0	
Fluorene	ND	mg/kg	0.0034	0.0022	1	12/05/22 15:35	12/09/22 13:10	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:10	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAUER 915-1

Pace Project No.: 60416937

Sample: SP4 **Lab ID: 60416937006** Collected: 12/01/22 09:30 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0034	0.0016	1	12/05/22 15:35	12/09/22 13:10	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0034	0.0021	1	12/05/22 15:35	12/09/22 13:10	91-57-6	
Naphthalene	ND	mg/kg	0.0034	0.0017	1	12/05/22 15:35	12/09/22 13:10	91-20-3	
Pyrene	ND	mg/kg	0.0034	0.0022	1	12/05/22 15:35	12/09/22 13:10	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	40-120		1	12/05/22 15:35	12/09/22 13:10	321-60-8	
Terphenyl-d14 (S)	79	%	45-130		1	12/05/22 15:35	12/09/22 13:10	1718-51-0	
8260C MSV 5035A Low Level									
Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0012J	mg/kg	0.0057	0.00052	1	12/05/22 11:13	12/05/22 15:18	71-43-2	
Ethylbenzene	ND	mg/kg	0.0057	0.00098	1	12/05/22 11:13	12/05/22 15:18	100-41-4	
Toluene	ND	mg/kg	0.023	0.0050	1	12/05/22 11:13	12/05/22 15:18	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0057	0.00078	1	12/05/22 11:13	12/05/22 15:18	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0057	0.00049	1	12/05/22 11:13	12/05/22 15:18	108-67-8	
Xylene (Total)	ND	mg/kg	0.017	0.0042	1	12/05/22 11:13	12/05/22 15:18	1330-20-7	
Surrogates									
Toluene-d8 (S)	110	%	80-120		1	12/05/22 11:13	12/05/22 15:18	2037-26-5	
4-Bromofluorobenzene (S)	104	%	83-119		1	12/05/22 11:13	12/05/22 15:18	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	12/05/22 11:13	12/05/22 15:18	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	6.1	%	0.50	0.50	1		12/05/22 14:00		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	94.1	%			1	12/07/22 15:25	12/07/22 15:40		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	0.276J	mg/kg	1.06	0.271	1	12/07/22 01:10	12/08/22 05:14	18540-29-9	J
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	7.81	Std. Units		0.10	1	12/08/22 13:00	12/08/22 15:10		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	1680	umhos/cm	10.0	10.0	1	12/07/22 09:00	12/07/22 11:40		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	7.45				1	12/16/22 00:05	12/16/22 00:05	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP5 **Lab ID: 60416937007** Collected: 12/01/22 08:50 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	ND	mg/kg	20.7	4.6	1	12/05/22 15:33	12/19/22 15:12		
TPH-DRO (C10-C28)	8.2J	mg/kg	10.3	4.6	1	12/05/22 15:33	12/19/22 15:12		B
Surrogates									
n-Tetracosane (S)	73	%	31-152		1	12/05/22 15:33	12/19/22 15:12	646-31-1	
p-Terphenyl (S)	78	%	46-130		1	12/05/22 15:33	12/19/22 15:12	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	ND	mg/kg	10.5	1.3	1	12/08/22 10:11	12/08/22 22:00		
Surrogates									
4-Bromofluorobenzene (S)	96	%	66-130		1	12/08/22 10:11	12/08/22 22:00	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	570	ug/L	200	16.7	1	12/09/22 17:57	12/16/22 13:43	7440-42-8H	
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	170	mg/kg	0.38	0.075	1	12/07/22 14:03	12/14/22 20:04	7440-39-3	
Cadmium	0.55	mg/kg	0.38	0.055	1	12/07/22 14:03	12/14/22 20:04	7440-43-9	
Copper	13.3	mg/kg	1.5	0.31	1	12/07/22 14:03	12/14/22 20:04	7440-50-8	
Lead	11.2	mg/kg	0.76	0.22	1	12/07/22 14:03	12/14/22 20:04	7439-92-1	
Nickel	12.3	mg/kg	0.38	0.19	1	12/07/22 14:03	12/14/22 20:04	7440-02-0	
Selenium	0.50J	mg/kg	1.1	0.23	1	12/07/22 14:03	12/14/22 20:04	7782-49-2	
Silver	ND	mg/kg	0.53	0.082	1	12/07/22 14:03	12/14/22 20:04	7440-22-4	
Zinc	47.5	mg/kg	7.6	0.16	1	12/07/22 14:03	12/14/22 20:04	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	7.7	mg/kg	0.76	0.17	10	12/07/22 14:03	12/15/22 16:53	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:28	83-32-9	
Anthracene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:28	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:28	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0034	0.0014	1	12/05/22 15:35	12/09/22 13:28	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:28	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:28	207-08-9	
Chrysene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:28	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:28	53-70-3	
Fluoranthene	ND	mg/kg	0.0034	0.0024	1	12/05/22 15:35	12/09/22 13:28	206-44-0	
Fluorene	ND	mg/kg	0.0034	0.0022	1	12/05/22 15:35	12/09/22 13:28	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:28	193-39-5	

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ANALYTICAL RESULTS

Project: MAUER 915-1

Pace Project No.: 60416937

Sample: SP5 **Lab ID: 60416937007** Collected: 12/01/22 08:50 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0034	0.0016	1	12/05/22 15:35	12/09/22 13:28	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0034	0.0021	1	12/05/22 15:35	12/09/22 13:28	91-57-6	
Naphthalene	ND	mg/kg	0.0034	0.0017	1	12/05/22 15:35	12/09/22 13:28	91-20-3	
Pyrene	ND	mg/kg	0.0034	0.0022	1	12/05/22 15:35	12/09/22 13:28	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	64	%	40-120		1	12/05/22 15:35	12/09/22 13:28	321-60-8	
Terphenyl-d14 (S)	77	%	45-130		1	12/05/22 15:35	12/09/22 13:28	1718-51-0	
8260C MSV 5035A Low Level									
Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.00078J	mg/kg	0.0055	0.00050	1	12/05/22 11:13	12/05/22 15:38	71-43-2	
Ethylbenzene	ND	mg/kg	0.0055	0.00095	1	12/05/22 11:13	12/05/22 15:38	100-41-4	
Toluene	ND	mg/kg	0.022	0.0049	1	12/05/22 11:13	12/05/22 15:38	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0055	0.00076	1	12/05/22 11:13	12/05/22 15:38	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0055	0.00048	1	12/05/22 11:13	12/05/22 15:38	108-67-8	
Xylene (Total)	ND	mg/kg	0.016	0.0040	1	12/05/22 11:13	12/05/22 15:38	1330-20-7	
Surrogates									
Toluene-d8 (S)	110	%	80-120		1	12/05/22 11:13	12/05/22 15:38	2037-26-5	
4-Bromofluorobenzene (S)	104	%	83-119		1	12/05/22 11:13	12/05/22 15:38	460-00-4	
1,2-Dichlorobenzene-d4 (S)	100	%	80-120		1	12/05/22 11:13	12/05/22 15:38	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	5.5	%	0.50	0.50	1		12/05/22 14:00		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	31.3	%			1	12/07/22 15:10	12/07/22 15:24		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	3.20	0.815	1	12/07/22 01:10	12/08/22 05:19	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	7.97	Std. Units		0.10	1	12/08/22 13:00	12/08/22 15:10		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	1420	umhos/cm	10.0	10.0	1	12/10/22 11:00	12/13/22 08:10		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	1.94				1	12/16/22 00:08	12/16/22 00:08	SAR	

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ANALYTICAL RESULTS

Project: MAUER 915-1
Pace Project No.: 60416937

Sample: SP6 **Lab ID: 60416937008** Collected: 12/01/22 09:10 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	5.2J	mg/kg	20.3	4.5	1	12/05/22 15:33	12/19/22 15:20		
TPH-DRO (C10-C28)	ND	mg/kg	10.1	4.5	1	12/05/22 15:33	12/19/22 15:20		
Surrogates									
n-Tetracosane (S)	70	%	31-152		1	12/05/22 15:33	12/19/22 15:20	646-31-1	
p-Terphenyl (S)	75	%	46-130		1	12/05/22 15:33	12/19/22 15:20	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	ND	mg/kg	10.6	1.3	1	12/08/22 10:11	12/08/22 22:16		
Surrogates									
4-Bromofluorobenzene (S)	94	%	66-130		1	12/08/22 10:11	12/08/22 22:16	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	319	ug/L	200	16.7	1	12/09/22 17:57	12/16/22 13:46	7440-42-8H	
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	174	mg/kg	0.41	0.081	1	12/07/22 14:03	12/14/22 20:06	7440-39-3	
Cadmium	0.51	mg/kg	0.41	0.059	1	12/07/22 14:03	12/14/22 20:06	7440-43-9	
Copper	12.3	mg/kg	1.6	0.34	1	12/07/22 14:03	12/14/22 20:06	7440-50-8	
Lead	9.8	mg/kg	0.82	0.24	1	12/07/22 14:03	12/14/22 20:06	7439-92-1	
Nickel	11.7	mg/kg	0.41	0.20	1	12/07/22 14:03	12/14/22 20:06	7440-02-0	
Selenium	0.52J	mg/kg	1.2	0.25	1	12/07/22 14:03	12/14/22 20:06	7782-49-2	
Silver	ND	mg/kg	0.57	0.088	1	12/07/22 14:03	12/14/22 20:06	7440-22-4	
Zinc	37.4	mg/kg	8.2	0.17	1	12/07/22 14:03	12/14/22 20:06	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	6.7	mg/kg	0.82	0.19	10	12/07/22 14:03	12/15/22 16:55	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:46	83-32-9	
Anthracene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:46	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:46	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0034	0.0014	1	12/05/22 15:35	12/09/22 13:46	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:46	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0034	0.0019	1	12/05/22 15:35	12/09/22 13:46	207-08-9	
Chrysene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:46	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:46	53-70-3	
Fluoranthene	ND	mg/kg	0.0034	0.0024	1	12/05/22 15:35	12/09/22 13:46	206-44-0	
Fluorene	ND	mg/kg	0.0034	0.0022	1	12/05/22 15:35	12/09/22 13:46	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:46	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAUER 915-1

Pace Project No.: 60416937

Sample: SP6 **Lab ID: 60416937008** Collected: 12/01/22 09:10 Received: 12/02/22 10:57 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0034	0.0017	1	12/05/22 15:35	12/09/22 13:46	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0034	0.0021	1	12/05/22 15:35	12/09/22 13:46	91-57-6	
Naphthalene	ND	mg/kg	0.0034	0.0018	1	12/05/22 15:35	12/09/22 13:46	91-20-3	
Pyrene	ND	mg/kg	0.0034	0.0022	1	12/05/22 15:35	12/09/22 13:46	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	71	%	40-120		1	12/05/22 15:35	12/09/22 13:46	321-60-8	
Terphenyl-d14 (S)	87	%	45-130		1	12/05/22 15:35	12/09/22 13:46	1718-51-0	
8260C MSV 5035A Low Level									
Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0010J	mg/kg	0.0055	0.00050	1	12/05/22 11:13	12/05/22 15:57	71-43-2	
Ethylbenzene	ND	mg/kg	0.0055	0.00095	1	12/05/22 11:13	12/05/22 15:57	100-41-4	
Toluene	ND	mg/kg	0.022	0.0049	1	12/05/22 11:13	12/05/22 15:57	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0055	0.00076	1	12/05/22 11:13	12/05/22 15:57	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0055	0.00048	1	12/05/22 11:13	12/05/22 15:57	108-67-8	
Xylene (Total)	ND	mg/kg	0.016	0.0040	1	12/05/22 11:13	12/05/22 15:57	1330-20-7	
Surrogates									
Toluene-d8 (S)	110	%	80-120		1	12/05/22 11:13	12/05/22 15:57	2037-26-5	
4-Bromofluorobenzene (S)	103	%	83-119		1	12/05/22 11:13	12/05/22 15:57	460-00-4	
1,2-Dichlorobenzene-d4 (S)	98	%	80-120		1	12/05/22 11:13	12/05/22 15:57	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	5.6	%	0.50	0.50	1		12/05/22 14:00		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	94.5	%			1	12/07/22 15:10	12/07/22 15:24		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.06	0.270	1	12/07/22 01:10	12/08/22 05:24	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	8.88	Std. Units		0.10	1	12/08/22 13:00	12/08/22 15:10		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	479	umhos/cm	10.0	10.0	1	12/10/22 11:00	12/13/22 08:10		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	3.75				1	12/16/22 00:10	12/16/22 00:10	SAR	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	821854	Analysis Method:	EPA 8015B
QC Batch Method:	EPA 5035A/5030B	Analysis Description:	Gasoline Range Organics
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

METHOD BLANK:	3267110	Matrix:	Solid
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH-GRO	mg/kg	1.4J	10.0	1.2	12/08/22 18:51	
4-Bromofluorobenzene (S)	%	98	66-130		12/08/22 18:51	

LABORATORY CONTROL SAMPLE: 3267111						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	48.4	97	70-130	
4-Bromofluorobenzene (S)	%			99	66-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3267112 3267113												
Parameter	Units	60416937003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	ND	66.3	66.3	64.3	64.5	95	96	70-130	0	25	
4-Bromofluorobenzene (S)	%						95	96	66-130			

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	1972178	Analysis Method:	6010B-NE493 Ch 2
QC Batch Method:	HWS Boron	Analysis Description:	Metals (ICP) 6010B-NE493 Ch 2
		Laboratory:	Pace National - Mt. Juliet
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

METHOD BLANK:	R3872801-1	Matrix:	Solid
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron, Hot Water Soluble	ug/L	ND	200	16.7	12/16/22 13:09	

LABORATORY CONTROL SAMPLE & LCSD:			R3872801-2		R3872801-3						
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Boron, Hot Water Soluble	ug/L	1000	1020	1020	102	102	80.0-120	0.244	20		

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	821838	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3050	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

METHOD BLANK: 3267045

Matrix: Solid

Associated Lab Samples: 60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/kg	ND	0.50	0.099	12/14/22 19:34	
Cadmium	mg/kg	ND	0.50	0.072	12/14/22 19:34	
Copper	mg/kg	ND	2.0	0.41	12/14/22 19:34	
Lead	mg/kg	ND	1.0	0.29	12/14/22 19:34	
Nickel	mg/kg	ND	0.50	0.25	12/14/22 19:34	
Selenium	mg/kg	ND	1.5	0.31	12/14/22 19:34	
Silver	mg/kg	ND	0.70	0.11	12/14/22 19:34	
Zinc	mg/kg	0.31J	10.0	0.21	12/14/22 19:34	

LABORATORY CONTROL SAMPLE: 3267046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/kg	100	94.1	94	80-120	
Cadmium	mg/kg	100	91.5	92	80-120	
Copper	mg/kg	100	90.2	90	80-120	
Lead	mg/kg	100	90.2	90	80-120	
Nickel	mg/kg	100	91.8	92	80-120	
Selenium	mg/kg	100	85.7	86	80-120	
Silver	mg/kg	50	44.5	89	80-120	
Zinc	mg/kg	100	86.9	87	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3267047 3267048

Parameter	Units	60416937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/kg	177	80.6	81.9	243	302	83	154	75-125	22	20	M1, R1
Cadmium	mg/kg	0.29J	80.6	81.9	66.4	68.4	82	83	75-125	3	20	
Copper	mg/kg	6.3	80.6	81.9	75.9	77.2	86	87	75-125	2	20	
Lead	mg/kg	6.6	80.6	81.9	71.2	73.1	80	81	75-125	3	20	
Nickel	mg/kg	7.1	80.6	81.9	72.0	74.9	80	83	75-125	4	20	
Selenium	mg/kg	0.34J	80.6	81.9	59.7	62.3	74	76	75-125	4	20	M1
Silver	mg/kg	ND	40.3	41	31.4	32.3	78	79	75-125	3	20	
Zinc	mg/kg	23.6	80.6	81.9	85.5	90.7	77	82	75-125	6	20	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	821837	Analysis Method:	EPA 6020
QC Batch Method:	EPA 3050	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

METHOD BLANK:	3267039	Matrix:	Solid
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	ND	1.0	0.23	12/15/22 16:23	

LABORATORY CONTROL SAMPLE:	3267040					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	100	90.7	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3267041			3267042								
Parameter	Units	60416935001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	6.3	101	98.9	94.3	94.1	87	89	75-125	0	20	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	821391	Analysis Method:	EPA 8260C
QC Batch Method:	EPA 5035A/5030B	Analysis Description:	8260C MSV 5035A Low Level
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

METHOD BLANK: 3265464

Matrix: Solid

Associated Lab Samples: 60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	0.00069	12/05/22 12:59	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	0.00043	12/05/22 12:59	
Benzene	mg/kg	ND	0.0050	0.00046	12/05/22 12:59	
Ethylbenzene	mg/kg	ND	0.0050	0.00087	12/05/22 12:59	
Toluene	mg/kg	ND	0.020	0.0044	12/05/22 12:59	
Xylene (Total)	mg/kg	ND	0.015	0.0037	12/05/22 12:59	
1,2-Dichlorobenzene-d4 (S)	%	99	80-120		12/05/22 12:59	
4-Bromofluorobenzene (S)	%	105	83-119		12/05/22 12:59	
Toluene-d8 (S)	%	111	80-120		12/05/22 12:59	

LABORATORY CONTROL SAMPLE: 3265465

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	1.2	1.2	98	79-121	
1,3,5-Trimethylbenzene	mg/kg	1.2	1.2	97	81-122	
Benzene	mg/kg	1.2	1.1	91	67-126	
Ethylbenzene	mg/kg	1.2	1.2	93	69-127	
Toluene	mg/kg	1.2	1.1	88	80-118	
Xylene (Total)	mg/kg	3.8	3.6	95	69-130	
1,2-Dichlorobenzene-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	83-119	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3265466 3265467

Parameter	Units	60416937008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	mg/kg	ND	1.4	1.4	1.3	1.4	94	101	10-124	8	68	
1,3,5-Trimethylbenzene	mg/kg	ND	1.4	1.4	1.3	1.4	92	100	10-125	8	65	
Benzene	mg/kg	0.0010J	1.4	1.4	1.2	1.3	88	93	17-134	6	53	
Ethylbenzene	mg/kg	ND	1.4	1.4	1.2	1.3	91	96	10-137	6	60	
Toluene	mg/kg	ND	1.4	1.4	1.2	1.2	85	90	13-131	6	60	
Xylene (Total)	mg/kg	ND	4.1	4.1	3.8	4.0	92	97	10-137	5	58	
1,2-Dichlorobenzene-d4 (S)	%						99	100	80-120			
4-Bromofluorobenzene (S)	%						101	100	83-119			
Toluene-d8 (S)	%						95	95	80-120			

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	821387	Analysis Method:	EPA 8015B
QC Batch Method:	EPA 3546	Analysis Description:	EPA 8015B
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

METHOD BLANK:	3265442	Matrix:	Solid
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH-DRO (C10-C28)	mg/kg	9.8	9.5	4.3	12/10/22 18:47	
TPH-RRO (C28-C36)	mg/kg	ND	19.0	4.3	12/10/22 18:47	
n-Tetracosane (S)	%	87	31-152		12/10/22 18:47	
p-Terphenyl (S)	%	78	46-130		12/10/22 18:47	

LABORATORY CONTROL SAMPLE: 3265443

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO (C10-C28)	mg/kg	79.6	80.2	101	74-124	
n-Tetracosane (S)	%			90	31-152	
p-Terphenyl (S)	%			80	46-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3265444 3265445

Parameter	Units	60416937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-DRO (C10-C28)	mg/kg	21.4	82.1	83.9	108	108	105	103	30-130	0	35	
n-Tetracosane (S)	%						105	103	31-152			
p-Terphenyl (S)	%						90	87	46-130			

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	821386	Analysis Method:	EPA 8270 by SIM
QC Batch Method:	EPA 3546	Analysis Description:	8270/3546 MSSV PAH by SIM
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

METHOD BLANK: 3265438

Matrix: Solid

Associated Lab Samples: 60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.0031	0.0015	12/09/22 09:51	
2-Methylnaphthalene	mg/kg	ND	0.0031	0.0019	12/09/22 09:51	
Acenaphthene	mg/kg	ND	0.0031	0.0017	12/09/22 09:51	
Anthracene	mg/kg	ND	0.0031	0.0016	12/09/22 09:51	
Benzo(a)anthracene	mg/kg	ND	0.0031	0.0017	12/09/22 09:51	
Benzo(a)pyrene	mg/kg	ND	0.0031	0.0013	12/09/22 09:51	
Benzo(b)fluoranthene	mg/kg	ND	0.0031	0.0017	12/09/22 09:51	
Benzo(k)fluoranthene	mg/kg	ND	0.0031	0.0018	12/09/22 09:51	
Chrysene	mg/kg	ND	0.0031	0.0017	12/09/22 09:51	
Dibenz(a,h)anthracene	mg/kg	ND	0.0031	0.0017	12/09/22 09:51	
Fluoranthene	mg/kg	ND	0.0031	0.0022	12/09/22 09:51	
Fluorene	mg/kg	ND	0.0031	0.0020	12/09/22 09:51	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0031	0.0016	12/09/22 09:51	
Naphthalene	mg/kg	ND	0.0031	0.0016	12/09/22 09:51	
Pyrene	mg/kg	ND	0.0031	0.0021	12/09/22 09:51	
2-Fluorobiphenyl (S)	%	75	40-120		12/09/22 09:51	
Terphenyl-d14 (S)	%	85	45-130		12/09/22 09:51	

LABORATORY CONTROL SAMPLE: 3265439

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	0.032	0.019	58	55-120	
2-Methylnaphthalene	mg/kg	0.032	0.019	59	55-120	
Acenaphthene	mg/kg	0.032	0.020	62	45-120	
Anthracene	mg/kg	0.032	0.021	66	50-120	
Benzo(a)anthracene	mg/kg	0.032	0.020	62	55-125	
Benzo(a)pyrene	mg/kg	0.032	0.019	58	45-120	
Benzo(b)fluoranthene	mg/kg	0.032	0.020	64	50-125	
Benzo(k)fluoranthene	mg/kg	0.032	0.023	70	55-120	
Chrysene	mg/kg	0.032	0.020	63	55-120	
Dibenz(a,h)anthracene	mg/kg	0.032	0.020	61	40-125	
Fluoranthene	mg/kg	0.032	0.022	70	50-125	
Fluorene	mg/kg	0.032	0.019	60	50-120	
Indeno(1,2,3-cd)pyrene	mg/kg	0.032	0.022	67	44-125	
Naphthalene	mg/kg	0.032	0.018	57	45-120	
Pyrene	mg/kg	0.032	0.022	69	50-125	
2-Fluorobiphenyl (S)	%			61	40-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

LABORATORY CONTROL SAMPLE: 3265439

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Terphenyl-d14 (S)	%			67	45-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3265440 3265441

Parameter	Units	60416935001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	ND	0.037	0.037	0.025	0.019	68	51	50-145	30	61	
2-Methylnaphthalene	mg/kg	ND	0.037	0.037	0.026	0.019	71	52	50-120	31	61	
Acenaphthene	mg/kg	ND	0.037	0.037	0.028	0.020	75	55	10-150	31	42	
Anthracene	mg/kg	ND	0.037	0.037	0.030	0.022	81	60	10-160	29	54	
Benzo(a)anthracene	mg/kg	ND	0.037	0.037	0.029	0.021	78	58	10-160	29	62	
Benzo(a)pyrene	mg/kg	ND	0.037	0.037	0.027	0.020	73	54	10-150	29	66	
Benzo(b)fluoranthene	mg/kg	ND	0.037	0.037	0.030	0.022	81	60	10-165	30	61	
Benzo(k)fluoranthene	mg/kg	ND	0.037	0.037	0.029	0.022	77	60	10-165	25	53	
Chrysene	mg/kg	ND	0.037	0.037	0.029	0.022	78	58	10-150	29	57	
Dibenz(a,h)anthracene	mg/kg	ND	0.037	0.037	0.025	0.019	68	52	10-175	28	48	
Fluoranthene	mg/kg	ND	0.037	0.037	0.032	0.024	86	64	10-180	30	54	
Fluorene	mg/kg	ND	0.037	0.037	0.028	0.020	74	53	20-145	32	39	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.037	0.037	0.027	0.020	73	54	10-150	29	59	
Naphthalene	mg/kg	ND	0.037	0.037	0.026	0.019	70	50	10-165	33	54	
Pyrene	mg/kg	ND	0.037	0.037	0.032	0.024	87	64	10-180	30	61	
2-Fluorobiphenyl (S)	%						79	55	40-120			
Terphenyl-d14 (S)	%						89	63	45-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	821376	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

METHOD BLANK:	3265408	Matrix:	Solid
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	0.50	12/05/22 13:59	

SAMPLE DUPLICATE: 3265409

Parameter	Units	60416918001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.3	21.3	0	20	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	1970364	Analysis Method:	SM 2540G
QC Batch Method:	SM 2540 G	Analysis Description:	Total Solids 2540 G-2011
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006

METHOD BLANK: R3869539-1 Matrix: Solid

Associated Lab Samples: 60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Solids	%	0.00100			12/07/22 15:40	

LABORATORY CONTROL SAMPLE: R3869539-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	%	50.0	50.0	100	85.0-115	

SAMPLE DUPLICATE: R3869539-3

Parameter	Units	60416937003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	85.4	85.5	0.0496	10	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch: 1970365

QC Batch Method: SM 2540 G

Analysis Method: SM 2540G

Analysis Description: Total Solids 2540 G-2011

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60416937007, 60416937008

METHOD BLANK: R3869536-1

Matrix: Solid

Associated Lab Samples: 60416937007, 60416937008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Solids	%	0.00200			12/07/22 15:24	

LABORATORY CONTROL SAMPLE: R3869536-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	%	50.0	50.0	100	85.0-115	

SAMPLE DUPLICATE: R3869536-3

Parameter	Units	L1564201-01 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	81.7	81.6	0.123	10	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch:	1970335	Analysis Method:	EPA 7199
QC Batch Method:	3060A	Analysis Description:	Wet Chemistry 7199
		Laboratory:	Pace National - Mt. Juliet
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

METHOD BLANK:	R3869445-1	Matrix:	Solid
Associated Lab Samples:	60416937001, 60416937002, 60416937003, 60416937004, 60416937005, 60416937006, 60416937007, 60416937008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	mg/kg	ND	1.00	0.255	12/08/22 03:33	

LABORATORY CONTROL SAMPLE: R3869445-2						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/kg	10.0	10.4	104	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:					R3869445-5								R3869445-6			
Parameter	Units	60416937003	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	RPD	RPD	Qual			
		Result	Spike Conc.	Spike Conc.												
Chromium, Hexavalent	mg/kg	0.354	23.4	23.4	18.4	20.3	77.1	85.2	75.0-125	9.77	20					

MATRIX SPIKE SAMPLE:	R3869445-7						
		60416937003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chromium, Hexavalent	mg/kg	0.354	744	732	98.3	75.0-125	

SAMPLE DUPLICATE: R3869445-3						
Parameter	Units	L1564125-01 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	mg/kg	0.441	0.562J	24.2	20	D8,J

SAMPLE DUPLICATE: R3869445-8

Parameter	Units	L1564201-01 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	mg/kg	ND	ND	0.00	20	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch: 1970169

Analysis Method: EPA 9045D

QC Batch Method: 9045C/9045D

Analysis Description: Wet Chemistry 9045D

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60416937001, 60416937002, 60416937003

LABORATORY CONTROL SAMPLE: R3869038-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH	Std. Units	10.0	9.91	99.1	99.0-101	

SAMPLE DUPLICATE: R3869038-2

Parameter	Units	L1564073-02 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	10.3	10.3	0.292	1	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch: 1971123

Analysis Method: EPA 9045D

QC Batch Method: 9045C/9045D

Analysis Description: Wet Chemistry 9045D

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60416937004, 60416937005, 60416937006, 60416937007, 60416937008

LABORATORY CONTROL SAMPLE: R3869716-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH	Std. Units	10.0	9.90	99.0	99.0-101	

SAMPLE DUPLICATE: R3869716-2

Parameter	Units	60416937005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.59	7.57	0.264	1	

SAMPLE DUPLICATE: R3869716-3

Parameter	Units	L1564541-02 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.94	8.00	0.753	1	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch: 1969809

Analysis Method: EPA 9050

QC Batch Method: EPA 9050

Analysis Description: Wet Chemistry 9050AMod

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60416937002, 60416937003, 60416937004, 60416937005, 60416937006

METHOD BLANK: R3869102-1

Matrix: Solid

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Specific Conductance @ 25 C	umhos/cm	ND	10.0	10.0	12/07/22 11:40	

LABORATORY CONTROL SAMPLE: R3869102-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1120	1090	97.5	85.0-115	

SAMPLE DUPLICATE: R3869102-3

Parameter	Units	L1562533-05 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1330	1340	0.673	20	

SAMPLE DUPLICATE: R3869102-4

Parameter	Units	L1563669-03 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	155	155	0.452	20	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch: 1969809

Analysis Method: EPA 9050

QC Batch Method: 9050A

Analysis Description: Wet Chemistry 9050AMod

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60416937002, 60416937003, 60416937004, 60416937005, 60416937006

METHOD BLANK: R3869102-1

Matrix: Solid

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Specific Conductance @ 25 C	umhos/cm	ND	10.0	10.0	12/07/22 11:40	

LABORATORY CONTROL SAMPLE: R3869102-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1120	1090	97.5	85.0-115	

SAMPLE DUPLICATE: R3869102-3

Parameter	Units	L1562533-05 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1330	1340	0.673	20	

SAMPLE DUPLICATE: R3869102-4

Parameter	Units	L1563669-03 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	155	155	0.452	20	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch: 1971883

Analysis Method: EPA 9050

QC Batch Method: EPA 9050

Analysis Description: Wet Chemistry 9050AMod

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60416937001, 60416937007, 60416937008

METHOD BLANK: R3870967-1

Matrix: Solid

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Specific Conductance @ 25 C	umhos/cm	ND	10.0	10.0	12/13/22 08:10	

LABORATORY CONTROL SAMPLE: R3870967-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1120	1090	97.2	85.0-115	

SAMPLE DUPLICATE: R3870967-3

Parameter	Units	60416937001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	11200	11200	0.179	20	

SAMPLE DUPLICATE: R3870967-4

Parameter	Units	L1565582-04 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	434	430	0.926	20	

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QUALITY CONTROL DATA

Project: MAUER 915-1

Pace Project No.: 60416937

QC Batch: 1971883

Analysis Method: EPA 9050

QC Batch Method: 9050A

Analysis Description: Wet Chemistry 9050AMod

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60416937001, 60416937007, 60416937008

METHOD BLANK: R3870967-1

Matrix: Solid

Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Specific Conductance @ 25 C	umhos/cm	ND	10.0	10.0	12/13/22 08:10	

LABORATORY CONTROL SAMPLE: R3870967-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1120	1090	97.2	85.0-115	

SAMPLE DUPLICATE: R3870967-3

Parameter	Units	60416937001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	11200	11200	0.179	20	

SAMPLE DUPLICATE: R3870967-4

Parameter	Units	L1565582-04 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	434	430	0.926	20	

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QUALIFIERS

Project: MAUER 915-1

Pace Project No.: 60416937

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60416937001

[1] Wet Chemistry by Method 9045D - 8.47 at 20.3C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60416937002

[1] Wet Chemistry by Method 9045D - 8.27 at 20.3C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60416937003

[1] Wet Chemistry by Method 9045D - 8.97 at 20.1C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60416937004

[1] Wet Chemistry by Method 9045D - 8.82 at 21.7C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60416937005

[1] Wet Chemistry by Method 9045D - 7.59 at 21.7C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60416937006

[1] Wet Chemistry by Method 9045D - 7.81 at 21.5C

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QUALIFIERS

Project: MAUER 915-1

Pace Project No.: 60416937

SAMPLE QUALIFIERS

Sample: 60416937006

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60416937007

[1] Wet Chemistry by Method 9045D - 7.97 at 21.3C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60416937008

[1] Wet Chemistry by Method 9045D - 8.88 at 21.3C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3869038-1

[1] Wet Chemistry by Method 9045D - 9.91 at 20.8C

Sample: R3869038-2

[1] Wet Chemistry by Method 9045D - 10.25 at 20.7C

Sample: R3869102-1

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3869102-2

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3869102-3

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3869102-4

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3869716-1

[1] Wet Chemistry by Method 9045D - 9.9 at 20.7C

Sample: R3869716-2

[1] Wet Chemistry by Method 9045D - 7.57 at 21.6C

Sample: R3869716-3

[1] Wet Chemistry by Method 9045D - 8 at 21.3C

Sample: R3870967-1

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3870967-2

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3870967-3

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3870967-4

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: L1562533-05

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: L1563669-03

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: L1564073-02

[1] Wet Chemistry by Method 9045D - 10.28 at 21.1C

Sample: L1564541-02

[1] Wet Chemistry by Method 9045D - 7.94 at 21.6C

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QUALIFIERS

Project: MAUER 915-1

Pace Project No.: 60416937

SAMPLE QUALIFIERS

Sample: L1565582-04

[1] Wet Chemistry by Method 9050AMod - at 25C

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
D8	The sample and duplicate results for this parameter are less than 5 times the reporting limit, the RPD may not be statistically valid.
H3	Sample was received or analysis requested beyond the recognized method holding time.
J	Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAUER 915-1

Pace Project No.: 60416937

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60416937001	SP1	EPA 3546	821387	EPA 8015B	821540
60416937002	SP1 4'	EPA 3546	821387	EPA 8015B	821540
60416937003	SP2	EPA 3546	821387	EPA 8015B	821540
60416937004	SP2 4'	EPA 3546	821387	EPA 8015B	821540
60416937005	SP3	EPA 3546	821387	EPA 8015B	821540
60416937006	SP4	EPA 3546	821387	EPA 8015B	821540
60416937007	SP5	EPA 3546	821387	EPA 8015B	821540
60416937008	SP6	EPA 3546	821387	EPA 8015B	821540
60416937001	SP1	EPA 5035A/5030B	821854	EPA 8015B	822174
60416937002	SP1 4'	EPA 5035A/5030B	821854	EPA 8015B	822174
60416937003	SP2	EPA 5035A/5030B	821854	EPA 8015B	822174
60416937004	SP2 4'	EPA 5035A/5030B	821854	EPA 8015B	822174
60416937005	SP3	EPA 5035A/5030B	821854	EPA 8015B	822174
60416937006	SP4	EPA 5035A/5030B	821854	EPA 8015B	822174
60416937007	SP5	EPA 5035A/5030B	821854	EPA 8015B	822174
60416937008	SP6	EPA 5035A/5030B	821854	EPA 8015B	822174
60416937001	SP1	HWS Boron	1972178	6010B-NE493 Ch 2	1972178
60416937002	SP1 4'	HWS Boron	1972178	6010B-NE493 Ch 2	1972178
60416937003	SP2	HWS Boron	1972178	6010B-NE493 Ch 2	1972178
60416937004	SP2 4'	HWS Boron	1972178	6010B-NE493 Ch 2	1972178
60416937005	SP3	HWS Boron	1972178	6010B-NE493 Ch 2	1972178
60416937006	SP4	HWS Boron	1972178	6010B-NE493 Ch 2	1972178
60416937007	SP5	HWS Boron	1972178	6010B-NE493 Ch 2	1972178
60416937008	SP6	HWS Boron	1972178	6010B-NE493 Ch 2	1972178
60416937001	SP1	EPA 3050	821838	EPA 6010	822072
60416937002	SP1 4'	EPA 3050	821838	EPA 6010	822072
60416937003	SP2	EPA 3050	821838	EPA 6010	822072
60416937004	SP2 4'	EPA 3050	821838	EPA 6010	822072
60416937005	SP3	EPA 3050	821838	EPA 6010	822072
60416937006	SP4	EPA 3050	821838	EPA 6010	822072
60416937007	SP5	EPA 3050	821838	EPA 6010	822072
60416937008	SP6	EPA 3050	821838	EPA 6010	822072
60416937001	SP1	EPA 3050	821837	EPA 6020	822073
60416937002	SP1 4'	EPA 3050	821837	EPA 6020	822073
60416937003	SP2	EPA 3050	821837	EPA 6020	822073
60416937004	SP2 4'	EPA 3050	821837	EPA 6020	822073
60416937005	SP3	EPA 3050	821837	EPA 6020	822073
60416937006	SP4	EPA 3050	821837	EPA 6020	822073
60416937007	SP5	EPA 3050	821837	EPA 6020	822073
60416937008	SP6	EPA 3050	821837	EPA 6020	822073
60416937001	SP1	EPA 3546	821386	EPA 8270 by SIM	821827
60416937002	SP1 4'	EPA 3546	821386	EPA 8270 by SIM	821827
60416937003	SP2	EPA 3546	821386	EPA 8270 by SIM	821827
60416937004	SP2 4'	EPA 3546	821386	EPA 8270 by SIM	821827
60416937005	SP3	EPA 3546	821386	EPA 8270 by SIM	821827
60416937006	SP4	EPA 3546	821386	EPA 8270 by SIM	821827

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAUER 915-1

Pace Project No.: 60416937

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60416937007	SP5	EPA 3546	821386	EPA 8270 by SIM	821827
60416937008	SP6	EPA 3546	821386	EPA 8270 by SIM	821827
60416937001	SP1	EPA 5035A/5030B	821391	EPA 8260C	821427
60416937002	SP1 4'	EPA 5035A/5030B	821391	EPA 8260C	821427
60416937003	SP2	EPA 5035A/5030B	821391	EPA 8260C	821427
60416937004	SP2 4'	EPA 5035A/5030B	821391	EPA 8260C	821427
60416937005	SP3	EPA 5035A/5030B	821391	EPA 8260C	821427
60416937006	SP4	EPA 5035A/5030B	821391	EPA 8260C	821427
60416937007	SP5	EPA 5035A/5030B	821391	EPA 8260C	821427
60416937008	SP6	EPA 5035A/5030B	821391	EPA 8260C	821427
60416937001	SP1	ASTM D2974	821376		
60416937002	SP1 4'	ASTM D2974	821376		
60416937003	SP2	ASTM D2974	821376		
60416937004	SP2 4'	ASTM D2974	821376		
60416937005	SP3	ASTM D2974	821376		
60416937006	SP4	ASTM D2974	821376		
60416937007	SP5	ASTM D2974	821376		
60416937008	SP6	ASTM D2974	821376		
60416937001	SP1	SM 2540 G	1970364	SM 2540G	1970364
60416937002	SP1 4'	SM 2540 G	1970364	SM 2540G	1970364
60416937003	SP2	SM 2540 G	1970364	SM 2540G	1970364
60416937004	SP2 4'	SM 2540 G	1970364	SM 2540G	1970364
60416937005	SP3	SM 2540 G	1970364	SM 2540G	1970364
60416937006	SP4	SM 2540 G	1970364	SM 2540G	1970364
60416937007	SP5	SM 2540 G	1970365	SM 2540G	1970365
60416937008	SP6	SM 2540 G	1970365	SM 2540G	1970365
60416937001	SP1	3060A	1970335	EPA 7199	1970335
60416937002	SP1 4'	3060A	1970335	EPA 7199	1970335
60416937003	SP2	3060A	1970335	EPA 7199	1970335
60416937004	SP2 4'	3060A	1970335	EPA 7199	1970335
60416937005	SP3	3060A	1970335	EPA 7199	1970335
60416937006	SP4	3060A	1970335	EPA 7199	1970335
60416937007	SP5	3060A	1970335	EPA 7199	1970335
60416937008	SP6	3060A	1970335	EPA 7199	1970335
60416937001	SP1	9045C/9045D	1970169	EPA 9045D	1970169
60416937002	SP1 4'	9045C/9045D	1970169	EPA 9045D	1970169
60416937003	SP2	9045C/9045D	1970169	EPA 9045D	1970169
60416937004	SP2 4'	9045C/9045D	1971123	EPA 9045D	1971123
60416937005	SP3	9045C/9045D	1971123	EPA 9045D	1971123
60416937006	SP4	9045C/9045D	1971123	EPA 9045D	1971123
60416937007	SP5	9045C/9045D	1971123	EPA 9045D	1971123
60416937008	SP6	9045C/9045D	1971123	EPA 9045D	1971123
60416937001	SP1	9050A	1971883	EPA 9050	1971883
60416937002	SP1 4'	9050A	1969809	EPA 9050	1969809

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAUER 915-1

Pace Project No.: 60416937

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60416937003	SP2	9050A	1969809	EPA 9050	1969809
60416937004	SP2 4'	9050A	1969809	EPA 9050	1969809
60416937005	SP3	9050A	1969809	EPA 9050	1969809
60416937006	SP4	9050A	1969809	EPA 9050	1969809
60416937007	SP5	9050A	1971883	EPA 9050	1971883
60416937008	SP6	9050A	1971883	EPA 9050	1971883
60416937001	SP1	Calc	1971971	Calculated	1971971
60416937002	SP1 4'	Calc	1971971	Calculated	1971971
60416937003	SP2	Calc	1971971	Calculated	1971971
60416937004	SP2 4'	Calc	1971973	Calculated	1971973
60416937005	SP3	Calc	1971973	Calculated	1971973
60416937006	SP4	Calc	1971973	Calculated	1971973
60416937007	SP5	Calc	1971973	Calculated	1971973
60416937008	SP6	Calc	1971973	Calculated	1971973

REPORT OF LABORATORY ANALYSIS

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DC#_Title: ENV-FRM-LENE-0009_Sa

Revision: 2

Effective Date: 01/12

W0#: 60416937



60416937

Client Name: Mull DrillingCourier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☒ Other ☐Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☐Thermometer Used: T-299 Type of Ice: Wet Blue ☐ None ☐Cooler Temperature (°C): As-read 0.31 Corr. Factor 0.5 Corrected 0.31Date and initials of person examining contents: 12/12Temperature should be above freezing to 6°C 0.5

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>SL</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Samples from USDA Regulated Area: State: <u>CO</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>.

Section A

Section B

Section C

Section C
Invoice Information:

Company:	Mull Drilling Company	Report To:	James Beilman	Attention:	
Address:	1700 N Waterfront Pkwy	Copy To:		Company Name:	
	Bld. 1200, Wichita, KS 67206			Address:	
Email:	jbeilman@mulldrilling.com	Purchase Order #:		Pace Quote:	
Phone:	(316)364-9203	Project Name:	REF- <i>MA200</i> <i>415-1</i>	Pace Project Manager:	heather.wilson@pacelabs.com,
Fax:		Project #:		Pace Profile #:	15622, 1
Requested Due Date:					
					State / Location
					CO
					Regulatory Agency

[illegible]

Client: Mull Drilling

Profile #

15622 Line 1

Site: Mauer 415-1

Notes

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JG5U	WG5U	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other
1	2																2	2												
2	1																2	2												
3																														
4																														
5																														
6																														
7	2																2	2												
8	2																2	2												
9																														
10																														
11																														
12																														

Container Codes

Glass										Plastic										Misc.									
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic	BP1C	1L NaOH plastic
DG9H	40mL HCl amber vial	WGKU	4oz clear soil jar	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic	BP1N	1L HNO3 plastic
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic	BP1S	1L H2SO4 plastic
DG9Q	40mL TSP amber vial	JG5U	4oz unpreserved amber wide	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic	BP1U	1L unpreserved plastic
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate	BP1Z	1L NaOH, Zn Acetate
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic	BP2C	500mL NaOH plastic
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic	BP2N	500mL HNO3 plastic
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic	BP2S	500mL H2SO4 plastic
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic	BP2U	500mL unpreserved plastic
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate	BP2Z	500mL NaOH, Zn Acetate
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic	BP3C	250mL NaOH plastic
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered	BP3F	250mL HNO3 plastic - field filtered
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic	BP3N	250mL HNO3 plastic
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic	BP3U	250mL H2SO4 plastic
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic	BP3S	250mL H2SO4 plastic
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate	BP3Z	250mL NaOH, Zn Acetate
				BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic	BP4U	125mL unpreserved plastic
				BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic	BP4N	125mL HNO3 plastic
				BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic	BP4S	125mL H2SO4 plastic
				WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic	WPDU	16oz unpreserved plastic

Work Order Number:

60416937
60416915

Internal Transfer Chain of Custody



☐ Samples Pre-Logged into eCOC.

State Of Origin: CO

Cert. Needed:	<input type="checkbox"/>	Yes
---------------	--------------------------	-----

☒ No

Workorder: 60416937

Workorder Name: MAUER 915-1

Owner Received Date: 12/2/2022 Results Requested By: 12/19/2022

[illegible]

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist

COC Seal Present/Intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	If Applicable	
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	VOA Zero Headspace:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Pres. Correct/Check:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		

MSA
3.7+0=3.7

MSA2
3.7+0=3.7

6091 0793 81



Ship To:
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone (615) 758-5858

INTER_LABORATORY WORK ORDER # 60416937

(To be completed by sending lab)

Sending Project No:	60416937
Receiving Project No:	
Check Box for Consolidated Invoice:	<input type="checkbox"/>
Date Prepared:	12/05/22
REQUESTED COMPLETION DATE:	12/19/2022

Sending Region	IR60-Kansas	Sending Project Mgr.	Heather Wilson
Receiving Region	IR850-Pace National	External Client	Mull Drilling Company
State of Sample Origin	CO	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? ☐ IRWO Lab Need to run? _____ Cert. Needed No

WORK REQUESTED						
Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Unit Price	Amount
Hot Water Boron	WGKU	8	Unpreserved	8	\$32.00	\$256.00
7199 Cr/V	WGKU		Unpreserved	8	\$91.00	\$728.00
Saturated Paste EC, SAR, pH	WGKU		Unpreserved	8	\$85.00	\$680.00
					TOTAL	\$1,664.00

Special Requirements: Report D, QC Limits, MDLs (D), FR Only no EDD (0)

Receiving Region Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept. Sending Region (20%)
Metals	20	\$984.00	\$787.20	\$196.80
Wet Chemistry	21	\$680.00	\$544.00	\$136.00
* Custom Revenue Allocation	TOTAL	\$1,664.00	\$1,331.20	\$332.80

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: ☐ Yes ☒ No

DISPOSITION OF FORM

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.



14-Nov-2023

James Beilman
Mull Drilling Company
1700 N Waterfront Pkwy, Bld. 1200
Wichita, KS 67206

Re: **Mauer Location**

Work Order: **23102586**

Dear James,

ALS Environmental received 12 samples on 28-Oct-2023 09:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 64.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: FL E871106

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Client: Mull Drilling Company
Project: Mauer Location
Work Order: 23102586

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
23102586-01	SP 3 4'	Soil		10/24/2023 11:50	10/28/2023 09:15	<input type="checkbox"/>
23102586-02	SP 4 4'	Soil		10/24/2023 12:00	10/28/2023 09:15	<input type="checkbox"/>
23102586-03	SP 7	Soil		10/24/2023 11:00	10/28/2023 09:15	<input type="checkbox"/>
23102586-04	SP 8	Soil		10/24/2023 11:05	10/28/2023 09:15	<input type="checkbox"/>
23102586-05	SP 9	Soil		10/24/2023 11:10	10/28/2023 09:15	<input type="checkbox"/>
23102586-06	SP 10	Soil		10/24/2023 11:20	10/28/2023 09:15	<input type="checkbox"/>
23102586-07	SP 11	Soil		10/24/2023 11:25	10/28/2023 09:15	<input type="checkbox"/>
23102586-08	SP 12	Soil		10/24/2023 11:40	10/28/2023 09:15	<input type="checkbox"/>
23102586-09	SP 13	Soil		10/24/2023 11:45	10/28/2023 09:15	<input type="checkbox"/>
23102586-10	SP 14 8'	Soil		10/24/2023 13:00	10/28/2023 09:15	<input type="checkbox"/>
23102586-11	Duplicate A	Soil		10/24/2023	10/28/2023 09:15	<input type="checkbox"/>
23102586-12	Trip Blank	Soil		10/24/2023	10/28/2023 09:15	<input type="checkbox"/>

Client: Mull Drilling Company
Project: Mauer Location
Work Order: 23102586

Case Narrative

The attached "Sample Receipt Checklist" documents the date of receipt, status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. A copy of the laboratory's scope of accreditation is available upon request.

Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

Any flags on MS/MSD samples not addressed in this narrative are unrelated to samples in this report.

With the following exceptions, all sample analyses achieved analytical criteria.

Batch 228326, Method SW8260D, Samples 23102586-02C: One or more surrogate recoveries were above the upper control limits. The sample was non-detect, therefore, no qualification is needed.

Batch R387210b, Method SW8260D, Samples 23102586-04C, -05C, -07C, and -08C, : One or more surrogate recoveries were above the upper control limits. The sample was non-detect, therefore, no qualification is needed.

Batch 228305, Method SW8015C, Sample 23102586-07C MSD: The MSD recovery was outside of the control limit. However, the MS recovery and the RPD between the MS and MSD was in control. No qualification is required for this analyte: GRO.

Batch 228540, Method SW8270E, Sample 23102586-10A: One or more surrogate recoveries were below the lower control limits. The sample results may be biased low.

Batch 228716, Method SW8270E, Sample 23102586-10A: Low surrogate recovery due to sample matrix confirmed by re-extraction

Batch 228715, Method SW8015C, Samples 23102586-06A, -08A, -10A, and -11A: Low surrogate recovery due to sample matrix confirmed by re-extraction.

Client: Mull Drilling Company
Project: Mauer Location
Work Order: 23102586

Case Narrative

Batch 228541, Method SW8015C, Sample 23102586-10A MSD: The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: ERO.

Batch 228202, Method SW7196A, Sample 23102586-10A MS/MSD: The MS/MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: Hexavalent Chromium.

Client: Mull Drilling Company
Project: Mauer Location
WorkOrder: 23102586

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Analyte accreditation is not offered
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius

none

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 3 4'
Collection Date: 10/24/2023 11:50 AM

Work Order: 23102586
Lab ID: 23102586-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/2/23		Analyst: SJB
ERO (C10-C36)	21	J	3.2	24	mg/Kg-dry	1	11/5/2023 05:33
Surr: 4-Terphenyl-d14	52.3			34-130	%REC	1	11/5/2023 05:33
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		7,900	8,500	µg/Kg-dry	1	11/1/2023 15:42
Surr: Toluene-d8	104			75-120	%REC	1	11/1/2023 15:42
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	7.1		0.040	0.33	mg/Kg-dry	1	11/2/2023 00:39
Barium	110		0.31	0.33	mg/Kg-dry	1	11/2/2023 00:39
Cadmium	0.084	J	0.020	0.13	mg/Kg-dry	1	11/2/2023 00:39
Copper	12		0.33	0.33	mg/Kg-dry	1	11/2/2023 00:39
Lead	15		0.16	0.33	mg/Kg-dry	1	11/2/2023 00:39
Nickel	12		0.17	0.33	mg/Kg-dry	1	11/2/2023 00:39
Selenium	0.74		0.31	0.33	mg/Kg-dry	1	11/2/2023 00:39
Silver	U		0.044	0.33	mg/Kg-dry	1	11/2/2023 00:39
Zinc	43		0.66	0.67	mg/Kg-dry	1	11/2/2023 00:39
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	140		2.5	5.0	mg/L	10	11/6/2023 18:46
Magnesium	70		0.50	2.0	mg/L	10	11/6/2023 18:46
Sodium	680		1.8	2.0	mg/L	10	11/6/2023 18:46
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	0.80		0.019	0.48	mg/Kg-dry	10	10/31/2023 18:48
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	12		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/2/23		Analyst: SMT
1-Methylnaphthalene	U		1.0	5.0	µg/Kg-dry	1	11/3/2023 02:42
2-Methylnaphthalene	U		1.2	5.0	µg/Kg-dry	1	11/3/2023 02:42
Acenaphthene	U		1.9	5.0	µg/Kg-dry	1	11/3/2023 02:42
Anthracene	U		0.92	5.0	µg/Kg-dry	1	11/3/2023 02:42
Benzo(a)anthracene	U		3.6	5.0	µg/Kg-dry	1	11/3/2023 02:42
Benzo(a)pyrene	U		3.4	5.0	µg/Kg-dry	1	11/3/2023 02:42
Benzo(b)fluoranthene	U		3.0	5.0	µg/Kg-dry	1	11/3/2023 02:42
Benzo(k)fluoranthene	U		0.76	5.0	µg/Kg-dry	1	11/3/2023 02:42
Chrysene	U		3.3	5.0	µg/Kg-dry	1	11/3/2023 02:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 3 4'
Collection Date: 10/24/2023 11:50 AM

Work Order: 23102586
Lab ID: 23102586-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		2.9	5.0	µg/Kg-dry	1	11/3/2023 02:42
Fluoranthene	U		2.5	5.0	µg/Kg-dry	1	11/3/2023 02:42
Fluorene	U		1.2	5.0	µg/Kg-dry	1	11/3/2023 02:42
Indeno(1,2,3-cd)pyrene	U		3.5	5.0	µg/Kg-dry	1	11/3/2023 02:42
Naphthalene	U		0.95	5.0	µg/Kg-dry	1	11/3/2023 02:42
Pyrene	U		3.2	5.0	µg/Kg-dry	1	11/3/2023 02:42
Surr: 2-Fluorobiphenyl	84.6			20-140	%REC	1	11/3/2023 02:42
Surr: 4-Terphenyl-d14	65.2			22-172	%REC	1	11/3/2023 02:42
Surr: Nitrobenzene-d5	79.8			28-140	%REC	1	11/3/2023 02:42
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		2.3	6.4	µg/Kg-dry	1.05	11/3/2023 15:28
1,3,5-Trimethylbenzene	U		2.1	6.4	µg/Kg-dry	1.05	11/3/2023 15:28
Benzene	U		0.67	6.4	µg/Kg-dry	1.05	11/3/2023 15:28
Ethylbenzene	U		1.1	6.4	µg/Kg-dry	1.05	11/3/2023 15:28
m,p-Xylene	U		2.8	3.2	µg/Kg-dry	1.05	11/3/2023 15:28
o-Xylene	U		1.5	3.2	µg/Kg-dry	1.05	11/3/2023 15:28
Toluene	U		2.2	6.4	µg/Kg-dry	1.05	11/3/2023 15:28
Xylenes, Total	U		2.8	6.4	µg/Kg-dry	1.05	11/3/2023 15:28
Surr: 1,2-Dichloroethane-d4	115			83-132	%REC	1.05	11/3/2023 15:28
Surr: 4-Bromofluorobenzene	101			83-111	%REC	1.05	11/3/2023 15:28
Surr: Dibromofluoromethane	111			77-125	%REC	1.05	11/3/2023 15:28
Surr: Toluene-d8	94.4			86-108	%REC	1.05	11/3/2023 15:28
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B			Prep: USDA Method 20B / 11/3/23	
Electrical Conductivity @ Saturation	5.3		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 14:10
CHROMIUM, HEXAVALENT			Method: SW7196A			Prep: SW3060A / 10/29/23	
Chromium, Hexavalent	U		0.98	1.2	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C			Analyst: SGH	
Moisture	18		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B			Prep: USDA Method 20B / 11/3/23	
pH @ Saturation	9.34		0.12	0.12	s.u.-dry	1	11/4/2023 12:00

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 4 4'
Collection Date: 10/24/2023 12:00 PM

Work Order: 23102586
Lab ID: 23102586-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/2/23		Analyst: SJB
ERO (C10-C36)	2,900		8.8	67	mg/Kg-dry	1	11/5/2023 06:10
Surr: 4-Terphenyl-d14	96.6			34-130	%REC	1	11/5/2023 06:10
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		6,300	6,800	µg/Kg-dry	1	11/1/2023 16:04
Surr: Toluene-d8	108			75-120	%REC	1	11/1/2023 16:04
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	6.1		0.043	0.36	mg/Kg-dry	1	11/2/2023 00:41
Barium	190		3.3	3.6	mg/Kg-dry	10	11/2/2023 17:01
Cadmium	0.092	J	0.021	0.14	mg/Kg-dry	1	11/2/2023 00:41
Copper	12		0.36	0.36	mg/Kg-dry	1	11/2/2023 00:41
Lead	15		0.17	0.36	mg/Kg-dry	1	11/2/2023 00:41
Nickel	9.4		0.19	0.36	mg/Kg-dry	1	11/2/2023 00:41
Selenium	0.35	J	0.33	0.36	mg/Kg-dry	1	11/2/2023 00:41
Silver	U		0.047	0.36	mg/Kg-dry	1	11/2/2023 00:41
Zinc	67		0.70	0.71	mg/Kg-dry	1	11/2/2023 00:41
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	500		2.5	5.0	mg/L	10	11/6/2023 18:48
Magnesium	39		0.50	2.0	mg/L	10	11/6/2023 18:48
Sodium	840		1.8	2.0	mg/L	10	11/6/2023 18:48
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	2.5		0.019	0.48	mg/Kg-dry	10	10/31/2023 18:50
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	9.7		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/2/23		Analyst: SMT
1-Methylnaphthalene	U		2.9	14	µg/Kg-dry	1	11/3/2023 02:58
2-Methylnaphthalene	U		3.3	14	µg/Kg-dry	1	11/3/2023 02:58
Acenaphthene	U		5.4	14	µg/Kg-dry	1	11/3/2023 02:58
Anthracene	U		2.6	14	µg/Kg-dry	1	11/3/2023 02:58
Benzo(a)anthracene	240		10	14	µg/Kg-dry	1	11/3/2023 02:58
Benzo(a)pyrene	U		9.4	14	µg/Kg-dry	1	11/3/2023 02:58
Benzo(b)fluoranthene	U		8.4	14	µg/Kg-dry	1	11/3/2023 02:58
Benzo(k)fluoranthene	U		2.1	14	µg/Kg-dry	1	11/3/2023 02:58
Chrysene	260		9.2	14	µg/Kg-dry	1	11/3/2023 02:58

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 4 4'
Collection Date: 10/24/2023 12:00 PM

Work Order: 23102586
Lab ID: 23102586-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		8.1	14	µg/Kg-dry	1	11/3/2023 02:58
Fluoranthene	45		7.0	14	µg/Kg-dry	1	11/3/2023 02:58
Fluorene	82		3.4	14	µg/Kg-dry	1	11/3/2023 02:58
Indeno(1,2,3-cd)pyrene	U		9.7	14	µg/Kg-dry	1	11/3/2023 02:58
Naphthalene	4.7	J	2.6	14	µg/Kg-dry	1	11/3/2023 02:58
Pyrene	61		8.9	14	µg/Kg-dry	1	11/3/2023 02:58
Surr: 2-Fluorobiphenyl	88.3			20-140	%REC	1	11/3/2023 02:58
Surr: 4-Terphenyl-d14	77.7			22-172	%REC	1	11/3/2023 02:58
Surr: Nitrobenzene-d5	103			28-140	%REC	1	11/3/2023 02:58
VOLATILE ORGANIC COMPOUNDS			Method: SW8260D		Prep: SW5035A / 10/31/23		Analyst: SBR
1,2,4-Trimethylbenzene	U		30	41	µg/Kg	1	11/3/2023 00:27
1,3,5-Trimethylbenzene	U		29	140	µg/Kg	1	11/3/2023 00:27
Benzene	U		20	41	µg/Kg	1	11/3/2023 00:27
Ethylbenzene	U		29	41	µg/Kg	1	11/3/2023 00:27
m,p-Xylene	U		54	82	µg/Kg	1	11/3/2023 00:27
o-Xylene	U		16	41	µg/Kg	1	11/3/2023 00:27
Toluene	U		34	41	µg/Kg	1	11/3/2023 00:27
Xylenes, Total	U		54	120	µg/Kg	1	11/3/2023 00:27
Surr: 1,2-Dichloroethane-d4	122	S		80-120	%REC	1	11/3/2023 00:27
Surr: 4-Bromofluorobenzene	109			80-120	%REC	1	11/3/2023 00:27
Surr: Dibromofluoromethane	104			80-120	%REC	1	11/3/2023 00:27
Surr: Toluene-d8	103			80-120	%REC	1	11/3/2023 00:27
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: CLJ
Electrical Conductivity @ Saturation	8.0		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 14:10
CHROMIUM, HEXAVALENT			Method: SW7196A		Prep: SW3060A / 10/29/23		Analyst: AXW
Chromium, Hexavalent	U		1.0	1.2	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C				Analyst: SGH
Moisture	17		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: CLJ
pH @ Saturation	8.76		0.12	0.12	s.u.-dry	1	11/4/2023 12:00

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 7
Collection Date: 10/24/2023 11:00 AM

Work Order: 23102586
Lab ID: 23102586-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/2/23		Analyst: SJB
ERO (C10-C36)	31		2.6	20	mg/Kg-dry	1	11/5/2023 06:46
Surr: 4-Terphenyl-d14	66.4			34-130	%REC	1	11/5/2023 06:46
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		5,800	6,300	µg/Kg-dry	1	11/1/2023 16:26
Surr: Toluene-d8	104			75-120	%REC	1	11/1/2023 16:26
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	5.9		0.034	0.28	mg/Kg-dry	1	11/2/2023 00:43
Barium	330		2.6	2.8	mg/Kg-dry	10	11/2/2023 17:03
Cadmium	0.057	J	0.017	0.11	mg/Kg-dry	1	11/2/2023 00:43
Copper	9.4		0.28	0.28	mg/Kg-dry	1	11/2/2023 00:43
Lead	12		0.13	0.28	mg/Kg-dry	1	11/2/2023 00:43
Nickel	9.6		0.15	0.28	mg/Kg-dry	1	11/2/2023 00:43
Selenium	0.65		0.26	0.28	mg/Kg-dry	1	11/2/2023 00:43
Silver	U		0.037	0.28	mg/Kg-dry	1	11/2/2023 00:43
Zinc	34		0.55	0.56	mg/Kg-dry	1	11/2/2023 00:43
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	50		2.5	5.0	mg/L	10	11/6/2023 18:50
Magnesium	12		0.50	2.0	mg/L	10	11/6/2023 18:50
Sodium	50		1.8	2.0	mg/L	10	11/6/2023 18:50
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	0.81		0.016	0.40	mg/Kg-dry	10	10/31/2023 18:52
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	1.6		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/2/23		Analyst: SMT
1-Methylnaphthalene	U		0.86	4.2	µg/Kg-dry	1	11/3/2023 03:13
2-Methylnaphthalene	U		0.99	4.2	µg/Kg-dry	1	11/3/2023 03:13
Acenaphthene	U		1.6	4.2	µg/Kg-dry	1	11/3/2023 03:13
Anthracene	U		0.77	4.2	µg/Kg-dry	1	11/3/2023 03:13
Benzo(a)anthracene	U		3.0	4.2	µg/Kg-dry	1	11/3/2023 03:13
Benzo(a)pyrene	U		2.8	4.2	µg/Kg-dry	1	11/3/2023 03:13
Benzo(b)fluoranthene	U		2.5	4.2	µg/Kg-dry	1	11/3/2023 03:13
Benzo(k)fluoranthene	U		0.63	4.2	µg/Kg-dry	1	11/3/2023 03:13
Chrysene	U		2.8	4.2	µg/Kg-dry	1	11/3/2023 03:13

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 7
Collection Date: 10/24/2023 11:00 AM

Work Order: 23102586
Lab ID: 23102586-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		2.4	4.2	µg/Kg-dry	1	11/3/2023 03:13
Fluoranthene	U		2.1	4.2	µg/Kg-dry	1	11/3/2023 03:13
Fluorene	U		1.0	4.2	µg/Kg-dry	1	11/3/2023 03:13
Indeno(1,2,3-cd)pyrene	U		2.9	4.2	µg/Kg-dry	1	11/3/2023 03:13
Naphthalene	U		0.79	4.2	µg/Kg-dry	1	11/3/2023 03:13
Pyrene	U		2.7	4.2	µg/Kg-dry	1	11/3/2023 03:13
Surr: 2-Fluorobiphenyl	87.2			20-140	%REC	1	11/3/2023 03:13
Surr: 4-Terphenyl-d14	78.5			22-172	%REC	1	11/3/2023 03:13
Surr: Nitrobenzene-d5	102			28-140	%REC	1	11/3/2023 03:13
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		1.0	2.8	µg/Kg-dry	0.546	11/3/2023 13:22
1,3,5-Trimethylbenzene	U		0.90	2.8	µg/Kg-dry	0.546	11/3/2023 13:22
Benzene	U		0.29	2.8	µg/Kg-dry	0.546	11/3/2023 13:22
Ethylbenzene	U		0.49	2.8	µg/Kg-dry	0.546	11/3/2023 13:22
m,p-Xylene	U		1.2	1.4	µg/Kg-dry	0.546	11/3/2023 13:22
o-Xylene	U		0.67	1.4	µg/Kg-dry	0.546	11/3/2023 13:22
Toluene	U		0.98	2.8	µg/Kg-dry	0.546	11/3/2023 13:22
Xylenes, Total	U		1.2	2.8	µg/Kg-dry	0.546	11/3/2023 13:22
Surr: 1,2-Dichloroethane-d4	113			83-132	%REC	0.546	11/3/2023 13:22
Surr: 4-Bromofluorobenzene	101			83-111	%REC	0.546	11/3/2023 13:22
Surr: Dibromofluoromethane	112			77-125	%REC	0.546	11/3/2023 13:22
Surr: Toluene-d8	92.7			86-108	%REC	0.546	11/3/2023 13:22
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B			Prep: USDA Method 20B / 11/3/23	
Electrical Conductivity @ Saturation	0.65		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 14:10
CHROMIUM, HEXAVALENT			Method: SW7196A			Prep: SW3060A / 10/29/23	
Chromium, Hexavalent	U		0.84	0.99	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C			Analyst: SGH	
Moisture	2.7		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B			Prep: USDA Method 20B / 11/3/23	
pH @ Saturation	8.29		0.10	0.10	s.u.-dry	1	11/4/2023 12:00

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 8
Collection Date: 10/24/2023 11:05 AM

Work Order: 23102586
Lab ID: 23102586-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/2/23		Analyst: SJB
ERO (C10-C36)	73		2.8	22	mg/Kg-dry	1	11/3/2023 21:37
Surr: 4-Terphenyl-d14	36.2			34-130	%REC	1	11/3/2023 21:37
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		8,700	9,300	µg/Kg-dry	1	11/1/2023 16:49
Surr: Toluene-d8	106			75-120	%REC	1	11/1/2023 16:49
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	5.3		0.033	0.28	mg/Kg-dry	1	11/2/2023 00:45
Barium	230		2.6	2.8	mg/Kg-dry	10	11/2/2023 17:05
Cadmium	0.072	J	0.017	0.11	mg/Kg-dry	1	11/2/2023 00:45
Copper	10		0.28	0.28	mg/Kg-dry	1	11/2/2023 00:45
Lead	14		0.13	0.28	mg/Kg-dry	1	11/2/2023 00:45
Nickel	9.9		0.14	0.28	mg/Kg-dry	1	11/2/2023 00:45
Selenium	0.53		0.26	0.28	mg/Kg-dry	1	11/2/2023 00:45
Silver	0.040	J	0.037	0.28	mg/Kg-dry	1	11/2/2023 00:45
Zinc	36		0.55	0.56	mg/Kg-dry	1	11/2/2023 00:45
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	1,300		2.5	5.0	mg/L	10	11/6/2023 18:51
Magnesium	240		0.50	2.0	mg/L	10	11/6/2023 18:51
Sodium	3,800		18	20	mg/L	100	11/7/2023 16:45
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	2.2		0.017	0.42	mg/Kg-dry	10	10/31/2023 18:54
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	25		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/2/23		Analyst: SMT
1-Methylnaphthalene	U		0.92	4.5	µg/Kg-dry	1	11/3/2023 03:29
2-Methylnaphthalene	U		1.1	4.5	µg/Kg-dry	1	11/3/2023 03:29
Acenaphthene	U		1.7	4.5	µg/Kg-dry	1	11/3/2023 03:29
Anthracene	U		0.82	4.5	µg/Kg-dry	1	11/3/2023 03:29
Benzo(a)anthracene	U		3.2	4.5	µg/Kg-dry	1	11/3/2023 03:29
Benzo(a)pyrene	U		3.0	4.5	µg/Kg-dry	1	11/3/2023 03:29
Benzo(b)fluoranthene	U		2.7	4.5	µg/Kg-dry	1	11/3/2023 03:29
Benzo(k)fluoranthene	U		0.68	4.5	µg/Kg-dry	1	11/3/2023 03:29
Chrysene	U		3.0	4.5	µg/Kg-dry	1	11/3/2023 03:29

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 8
Collection Date: 10/24/2023 11:05 AM

Work Order: 23102586
Lab ID: 23102586-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		2.6	4.5	µg/Kg-dry	1	11/3/2023 03:29
Fluoranthene	U		2.3	4.5	µg/Kg-dry	1	11/3/2023 03:29
Fluorene	U		1.1	4.5	µg/Kg-dry	1	11/3/2023 03:29
Indeno(1,2,3-cd)pyrene	U		3.1	4.5	µg/Kg-dry	1	11/3/2023 03:29
Naphthalene	U		0.85	4.5	µg/Kg-dry	1	11/3/2023 03:29
Pyrene	U		2.9	4.5	µg/Kg-dry	1	11/3/2023 03:29
Surr: 2-Fluorobiphenyl	82.4			20-140	%REC	1	11/3/2023 03:29
Surr: 4-Terphenyl-d14	48.3			22-172	%REC	1	11/3/2023 03:29
Surr: Nitrobenzene-d5	50.4			28-140	%REC	1	11/3/2023 03:29
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		3.6	10	µg/Kg-dry	1.85	11/3/2023 18:11
1,3,5-Trimethylbenzene	U		3.2	10	µg/Kg-dry	1.85	11/3/2023 18:11
Benzene	U		1.1	10	µg/Kg-dry	1.85	11/3/2023 18:11
Ethylbenzene	U		1.8	10	µg/Kg-dry	1.85	11/3/2023 18:11
m,p-Xylene	U		4.4	5.0	µg/Kg-dry	1.85	11/3/2023 18:11
o-Xylene	U		2.4	5.0	µg/Kg-dry	1.85	11/3/2023 18:11
Toluene	U		3.5	10	µg/Kg-dry	1.85	11/3/2023 18:11
Xylenes, Total	U		4.4	10	µg/Kg-dry	1.85	11/3/2023 18:11
Surr: 1,2-Dichloroethane-d4	113			83-132	%REC	1.85	11/3/2023 18:11
Surr: 4-Bromofluorobenzene	138	S		83-111	%REC	1.85	11/3/2023 18:11
Surr: Dibromofluoromethane	110			77-125	%REC	1.85	11/3/2023 18:11
Surr: Toluene-d8	95.1			86-108	%REC	1.85	11/3/2023 18:11
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B			Prep: USDA Method 20B / 11/3/23	
Electrical Conductivity @ Saturation	28		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 14:10
CHROMIUM, HEXAVALENT			Method: SW7196A			Prep: SW3060A / 10/29/23	
Chromium, Hexavalent	U		0.93	1.1	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C			Analyst: SGH	
Moisture	8.4		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B			Prep: USDA Method 20B / 11/3/23	
pH @ Saturation	7.15		0.11	0.11	s.u.-dry	1	11/4/2023 12:00

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 9
Collection Date: 10/24/2023 11:10 AM

Work Order: 23102586
Lab ID: 23102586-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/2/23		Analyst: SJB
ERO (C10-C36)	18	J	2.7	20	mg/Kg-dry	1	11/5/2023 07:23
Surr: 4-Terphenyl-d14	44.3			34-130	%REC	1	11/5/2023 07:23
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		6,500	7,000	µg/Kg-dry	1	11/1/2023 17:11
Surr: Toluene-d8	105			75-120	%REC	1	11/1/2023 17:11
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	4.8		0.033	0.28	mg/Kg-dry	1	11/2/2023 00:47
Barium	140		2.5	2.8	mg/Kg-dry	10	11/2/2023 17:07
Cadmium	0.11		0.017	0.11	mg/Kg-dry	1	11/2/2023 00:47
Copper	8.8		0.28	0.28	mg/Kg-dry	1	11/2/2023 00:47
Lead	13		0.13	0.28	mg/Kg-dry	1	11/2/2023 00:47
Nickel	8.8		0.14	0.28	mg/Kg-dry	1	11/2/2023 00:47
Selenium	0.46		0.25	0.28	mg/Kg-dry	1	11/2/2023 00:47
Silver	U		0.036	0.28	mg/Kg-dry	1	11/2/2023 00:47
Zinc	33		0.54	0.55	mg/Kg-dry	1	11/2/2023 00:47
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	59		2.5	5.0	mg/L	10	11/6/2023 18:53
Magnesium	14		0.50	2.0	mg/L	10	11/6/2023 18:53
Sodium	180		1.8	2.0	mg/L	10	11/6/2023 18:53
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	0.85		0.016	0.41	mg/Kg-dry	10	10/31/2023 18:56
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	5.6		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/2/23		Analyst: SMT
1-Methylnaphthalene	U		0.87	4.2	µg/Kg-dry	1	11/3/2023 21:13
2-Methylnaphthalene	U		1.0	4.2	µg/Kg-dry	1	11/3/2023 21:13
Acenaphthene	U		1.6	4.2	µg/Kg-dry	1	11/3/2023 21:13
Anthracene	U		0.78	4.2	µg/Kg-dry	1	11/3/2023 21:13
Benzo(a)anthracene	U		3.1	4.2	µg/Kg-dry	1	11/3/2023 21:13
Benzo(a)pyrene	U		2.9	4.2	µg/Kg-dry	1	11/3/2023 21:13
Benzo(b)fluoranthene	U		2.6	4.2	µg/Kg-dry	1	11/3/2023 21:13
Benzo(k)fluoranthene	U		0.64	4.2	µg/Kg-dry	1	11/3/2023 21:13
Chrysene	U		2.8	4.2	µg/Kg-dry	1	11/3/2023 21:13

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 9
Collection Date: 10/24/2023 11:10 AM

Work Order: 23102586
Lab ID: 23102586-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		2.5	4.2	µg/Kg-dry	1	11/3/2023 21:13
Fluoranthene	U		2.1	4.2	µg/Kg-dry	1	11/3/2023 21:13
Fluorene	U		1.1	4.2	µg/Kg-dry	1	11/3/2023 21:13
Indeno(1,2,3-cd)pyrene	U		3.0	4.2	µg/Kg-dry	1	11/3/2023 21:13
Naphthalene	U		0.81	4.2	µg/Kg-dry	1	11/3/2023 21:13
Pyrene	U		2.7	4.2	µg/Kg-dry	1	11/3/2023 21:13
Surr: 2-Fluorobiphenyl	60.3			20-140	%REC	1	11/3/2023 21:13
Surr: 4-Terphenyl-d14	54.9			22-172	%REC	1	11/3/2023 21:13
Surr: Nitrobenzene-d5	71.2			28-140	%REC	1	11/3/2023 21:13
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		3.1	8.7	µg/Kg-dry	1.66	11/3/2023 13:58
1,3,5-Trimethylbenzene	U		2.8	8.7	µg/Kg-dry	1.66	11/3/2023 13:58
Benzene	U		0.91	8.7	µg/Kg-dry	1.66	11/3/2023 13:58
Ethylbenzene	U		1.5	8.7	µg/Kg-dry	1.66	11/3/2023 13:58
m,p-Xylene	U		3.8	4.4	µg/Kg-dry	1.66	11/3/2023 13:58
o-Xylene	U		2.1	4.4	µg/Kg-dry	1.66	11/3/2023 13:58
Toluene	U		3.0	8.7	µg/Kg-dry	1.66	11/3/2023 13:58
Xylenes, Total	U		3.8	8.7	µg/Kg-dry	1.66	11/3/2023 13:58
Surr: 1,2-Dichloroethane-d4	138	S		83-132	%REC	1.66	11/3/2023 13:58
Surr: 4-Bromofluorobenzene	106			83-111	%REC	1.66	11/3/2023 13:58
Surr: Dibromofluoromethane	122			77-125	%REC	1.66	11/3/2023 13:58
Surr: Toluene-d8	144	S		86-108	%REC	1.66	11/3/2023 13:58
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B			Prep: USDA Method 20B / 11/3/23	
Electrical Conductivity @ Saturation	1.3		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 14:10
CHROMIUM, HEXAVALENT			Method: SW7196A			Prep: SW3060A / 10/29/23	
Chromium, Hexavalent	U		0.82	0.97	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C			Analyst: SGH	
Moisture	4.6		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B			Prep: USDA Method 20B / 11/3/23	
pH @ Saturation	8.20		0.10	0.10	s.u.-dry	1	11/4/2023 12:00

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 10
Collection Date: 10/24/2023 11:20 AM

Work Order: 23102586
Lab ID: 23102586-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/7/23		Analyst: SJB
ERO (C10-C36)	7.1	J	2.8	22	mg/Kg-dry	1	11/8/2023 05:03
Surr: 4-Terphenyl-d14	32.2	S		34-130	%REC	1	11/8/2023 05:03
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		7,000	7,400	µg/Kg-dry	1	11/1/2023 17:33
Surr: Toluene-d8	105			75-120	%REC	1	11/1/2023 17:33
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	5.3		0.035	0.29	mg/Kg-dry	1	11/2/2023 00:49
Barium	170		2.7	2.9	mg/Kg-dry	10	11/2/2023 17:09
Cadmium	0.089	J	0.018	0.12	mg/Kg-dry	1	11/2/2023 00:49
Copper	9.2		0.29	0.29	mg/Kg-dry	1	11/2/2023 00:49
Lead	12		0.14	0.29	mg/Kg-dry	1	11/2/2023 00:49
Nickel	9.1		0.15	0.29	mg/Kg-dry	1	11/2/2023 00:49
Selenium	0.56		0.27	0.29	mg/Kg-dry	1	11/2/2023 00:49
Silver	U		0.039	0.29	mg/Kg-dry	1	11/2/2023 00:49
Zinc	33		0.57	0.59	mg/Kg-dry	1	11/2/2023 00:49
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	83		2.5	5.0	mg/L	10	11/6/2023 18:55
Magnesium	14		0.50	2.0	mg/L	10	11/6/2023 18:55
Sodium	87		1.8	2.0	mg/L	10	11/6/2023 18:55
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	0.63		0.017	0.43	mg/Kg-dry	10	10/31/2023 18:58
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	2.3		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/2/23		Analyst: SMT
1-Methylnaphthalene	U		0.91	4.4	µg/Kg-dry	1	11/3/2023 21:28
2-Methylnaphthalene	U		1.0	4.4	µg/Kg-dry	1	11/3/2023 21:28
Acenaphthene	U		1.7	4.4	µg/Kg-dry	1	11/3/2023 21:28
Anthracene	U		0.81	4.4	µg/Kg-dry	1	11/3/2023 21:28
Benzo(a)anthracene	U		3.2	4.4	µg/Kg-dry	1	11/3/2023 21:28
Benzo(a)pyrene	U		3.0	4.4	µg/Kg-dry	1	11/3/2023 21:28
Benzo(b)fluoranthene	U		2.7	4.4	µg/Kg-dry	1	11/3/2023 21:28
Benzo(k)fluoranthene	U		0.67	4.4	µg/Kg-dry	1	11/3/2023 21:28
Chrysene	U		2.9	4.4	µg/Kg-dry	1	11/3/2023 21:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 10
Collection Date: 10/24/2023 11:20 AM

Work Order: 23102586
Lab ID: 23102586-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		2.6	4.4	µg/Kg-dry	1	11/3/2023 21:28
Fluoranthene	U		2.2	4.4	µg/Kg-dry	1	11/3/2023 21:28
Fluorene	U		1.1	4.4	µg/Kg-dry	1	11/3/2023 21:28
Indeno(1,2,3-cd)pyrene	U		3.1	4.4	µg/Kg-dry	1	11/3/2023 21:28
Naphthalene	U		0.84	4.4	µg/Kg-dry	1	11/3/2023 21:28
Pyrene	U		2.8	4.4	µg/Kg-dry	1	11/3/2023 21:28
Surr: 2-Fluorobiphenyl	33.7			20-140	%REC	1	11/3/2023 21:28
Surr: 4-Terphenyl-d14	32.3			22-172	%REC	1	11/3/2023 21:28
Surr: Nitrobenzene-d5	57.2			28-140	%REC	1	11/3/2023 21:28
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		2.6	7.3	µg/Kg-dry	1.34	11/3/2023 14:16
1,3,5-Trimethylbenzene	U		2.3	7.3	µg/Kg-dry	1.34	11/3/2023 14:16
Benzene	U		0.76	7.3	µg/Kg-dry	1.34	11/3/2023 14:16
Ethylbenzene	U		1.3	7.3	µg/Kg-dry	1.34	11/3/2023 14:16
m,p-Xylene	U		3.2	3.7	µg/Kg-dry	1.34	11/3/2023 14:16
o-Xylene	U		1.8	3.7	µg/Kg-dry	1.34	11/3/2023 14:16
Toluene	U		2.5	7.3	µg/Kg-dry	1.34	11/3/2023 14:16
Xylenes, Total	U		3.2	7.3	µg/Kg-dry	1.34	11/3/2023 14:16
Surr: 1,2-Dichloroethane-d4	118			83-132	%REC	1.34	11/3/2023 14:16
Surr: 4-Bromofluorobenzene	104			83-111	%REC	1.34	11/3/2023 14:16
Surr: Dibromofluoromethane	108			77-125	%REC	1.34	11/3/2023 14:16
Surr: Toluene-d8	94.0			86-108	%REC	1.34	11/3/2023 14:16
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B			Prep: USDA Method 20B / 11/3/23	
Electrical Conductivity @ Saturation	0.94		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 14:10
CHROMIUM, HEXAVALENT			Method: SW7196A			Prep: SW3060A / 10/29/23	
Chromium, Hexavalent	U		0.92	1.1	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C			Analyst: SGH	
Moisture	8.3		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B			Prep: USDA Method 20B / 11/3/23	
pH @ Saturation	8.55		0.11	0.11	s.u.-dry	1	11/4/2023 12:00

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 11
Collection Date: 10/24/2023 11:25 AM

Work Order: 23102586
Lab ID: 23102586-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/3/23		Analyst: SJB
ERO (C10-C36)	6.0	J	3.7	28	mg/Kg-dry	1	11/4/2023 09:41
Surr: 4-Terphenyl-d14	52.3			34-130	%REC	1	11/4/2023 09:41
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		4,500	4,900	µg/Kg-dry	1	11/1/2023 20:09
Surr: Toluene-d8	108			75-120	%REC	1	11/1/2023 20:09
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	5.8		0.044	0.36	mg/Kg-dry	1	11/2/2023 01:09
Barium	130		3.4	3.6	mg/Kg-dry	10	11/2/2023 17:17
Cadmium	0.089	J	0.022	0.15	mg/Kg-dry	1	11/2/2023 01:09
Copper	8.6		0.36	0.36	mg/Kg-dry	1	11/2/2023 01:09
Lead	12		0.18	0.36	mg/Kg-dry	1	11/2/2023 01:09
Nickel	9.3		0.19	0.36	mg/Kg-dry	1	11/2/2023 01:09
Selenium	0.42		0.34	0.36	mg/Kg-dry	1	11/2/2023 01:09
Silver	U		0.048	0.36	mg/Kg-dry	1	11/2/2023 01:09
Zinc	33		0.71	0.73	mg/Kg-dry	1	11/2/2023 01:09
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	93		2.5	5.0	mg/L	10	11/6/2023 19:07
Magnesium	17		0.50	2.0	mg/L	10	11/6/2023 19:07
Sodium	220		1.8	2.0	mg/L	10	11/6/2023 19:07
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	0.86		0.022	0.56	mg/Kg-dry	10	10/31/2023 19:13
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	5.6		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/3/23		Analyst: SMT
1-Methylnaphthalene	U		1.2	5.8	µg/Kg-dry	1	11/3/2023 23:16
2-Methylnaphthalene	U		1.4	5.8	µg/Kg-dry	1	11/3/2023 23:16
Acenaphthene	U		2.3	5.8	µg/Kg-dry	1	11/3/2023 23:16
Anthracene	U		1.1	5.8	µg/Kg-dry	1	11/3/2023 23:16
Benzo(a)anthracene	U		4.2	5.8	µg/Kg-dry	1	11/3/2023 23:16
Benzo(a)pyrene	U		4.0	5.8	µg/Kg-dry	1	11/3/2023 23:16
Benzo(b)fluoranthene	U		3.5	5.8	µg/Kg-dry	1	11/3/2023 23:16
Benzo(k)fluoranthene	U		0.88	5.8	µg/Kg-dry	1	11/3/2023 23:16
Chrysene	U		3.9	5.8	µg/Kg-dry	1	11/3/2023 23:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 11
Collection Date: 10/24/2023 11:25 AM

Work Order: 23102586
Lab ID: 23102586-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		3.4	5.8	µg/Kg-dry	1	11/3/2023 23:16
Fluoranthene	U		2.9	5.8	µg/Kg-dry	1	11/3/2023 23:16
Fluorene	U		1.4	5.8	µg/Kg-dry	1	11/3/2023 23:16
Indeno(1,2,3-cd)pyrene	U		4.1	5.8	µg/Kg-dry	1	11/3/2023 23:16
Naphthalene	U		1.1	5.8	µg/Kg-dry	1	11/3/2023 23:16
Pyrene	U		3.7	5.8	µg/Kg-dry	1	11/3/2023 23:16
Surr: 2-Fluorobiphenyl	80.8			20-140	%REC	1	11/3/2023 23:16
Surr: 4-Terphenyl-d14	74.3			22-172	%REC	1	11/3/2023 23:16
Surr: Nitrobenzene-d5	101			28-140	%REC	1	11/3/2023 23:16
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		3.6	9.9	µg/Kg-dry	1.41	11/3/2023 18:47
1,3,5-Trimethylbenzene	U		3.2	9.9	µg/Kg-dry	1.41	11/3/2023 18:47
Benzene	U		1.0	9.9	µg/Kg-dry	1.41	11/3/2023 18:47
Ethylbenzene	U		1.7	9.9	µg/Kg-dry	1.41	11/3/2023 18:47
m,p-Xylene	U		4.4	5.0	µg/Kg-dry	1.41	11/3/2023 18:47
o-Xylene	U		2.4	5.0	µg/Kg-dry	1.41	11/3/2023 18:47
Toluene	U		3.5	9.9	µg/Kg-dry	1.41	11/3/2023 18:47
Xylenes, Total	U		4.4	9.9	µg/Kg-dry	1.41	11/3/2023 18:47
Surr: 1,2-Dichloroethane-d4	118			83-132	%REC	1.41	11/3/2023 18:47
Surr: 4-Bromofluorobenzene	133	S		83-111	%REC	1.41	11/3/2023 18:47
Surr: Dibromofluoromethane	91.0			77-125	%REC	1.41	11/3/2023 18:47
Surr: Toluene-d8	100			86-108	%REC	1.41	11/3/2023 18:47
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B			Prep: USDA Method 20B / 11/3/23	
Electrical Conductivity @ Saturation	1.8		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 11:30
CHROMIUM, HEXAVALENT			Method: SW7196A			Prep: SW3060A / 10/29/23	
Chromium, Hexavalent	U		1.2	1.4	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C			Analyst: SGH	
Moisture	29		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B			Prep: USDA Method 20B / 11/3/23	
pH @ Saturation	10.1		0.14	0.14	s.u.-dry	1	11/4/2023 10:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 12
Collection Date: 10/24/2023 11:40 AM

Work Order: 23102586
Lab ID: 23102586-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/7/23		Analyst: SJB
ERO (C10-C36)	7.1	J	2.7	21	mg/Kg-dry	1	11/8/2023 05:40
Surr: 4-Terphenyl-d14	32.2	S		34-130	%REC	1	11/8/2023 05:40
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		6,900	7,400	µg/Kg-dry	1	11/1/2023 20:31
Surr: Toluene-d8	103			75-120	%REC	1	11/1/2023 20:31
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	5.5		0.032	0.27	mg/Kg-dry	1	11/2/2023 01:11
Barium	110		2.5	2.7	mg/Kg-dry	10	11/2/2023 17:22
Cadmium	0.11		0.016	0.11	mg/Kg-dry	1	11/2/2023 01:11
Copper	7.9		0.27	0.27	mg/Kg-dry	1	11/2/2023 01:11
Lead	12		0.13	0.27	mg/Kg-dry	1	11/2/2023 01:11
Nickel	7.7		0.14	0.27	mg/Kg-dry	1	11/2/2023 01:11
Selenium	0.53		0.25	0.27	mg/Kg-dry	1	11/2/2023 01:11
Silver	U		0.035	0.27	mg/Kg-dry	1	11/2/2023 01:11
Zinc	28		0.52	0.54	mg/Kg-dry	1	11/2/2023 01:11
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	59		2.5	5.0	mg/L	10	11/6/2023 19:09
Magnesium	8.5		0.50	2.0	mg/L	10	11/6/2023 19:09
Sodium	69		1.8	2.0	mg/L	10	11/6/2023 19:09
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	0.71		0.017	0.42	mg/Kg-dry	10	10/31/2023 19:15
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	2.2		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/3/23		Analyst: SMT
1-Methylnaphthalene	U		0.89	4.3	µg/Kg-dry	1	11/3/2023 23:32
2-Methylnaphthalene	U		1.0	4.3	µg/Kg-dry	1	11/3/2023 23:32
Acenaphthene	U		1.7	4.3	µg/Kg-dry	1	11/3/2023 23:32
Anthracene	U		0.80	4.3	µg/Kg-dry	1	11/3/2023 23:32
Benzo(a)anthracene	U		3.1	4.3	µg/Kg-dry	1	11/3/2023 23:32
Benzo(a)pyrene	U		2.9	4.3	µg/Kg-dry	1	11/3/2023 23:32
Benzo(b)fluoranthene	U		2.6	4.3	µg/Kg-dry	1	11/3/2023 23:32
Benzo(k)fluoranthene	U		0.66	4.3	µg/Kg-dry	1	11/3/2023 23:32
Chrysene	U		2.9	4.3	µg/Kg-dry	1	11/3/2023 23:32

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 12
Collection Date: 10/24/2023 11:40 AM

Work Order: 23102586
Lab ID: 23102586-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		2.5	4.3	µg/Kg-dry	1	11/3/2023 23:32
Fluoranthene	U		2.2	4.3	µg/Kg-dry	1	11/3/2023 23:32
Fluorene	U		1.1	4.3	µg/Kg-dry	1	11/3/2023 23:32
Indeno(1,2,3-cd)pyrene	U		3.0	4.3	µg/Kg-dry	1	11/3/2023 23:32
Naphthalene	U		0.82	4.3	µg/Kg-dry	1	11/3/2023 23:32
Pyrene	U		2.8	4.3	µg/Kg-dry	1	11/3/2023 23:32
Surr: 2-Fluorobiphenyl	43.7			20-140	%REC	1	11/3/2023 23:32
Surr: 4-Terphenyl-d14	39.5			22-172	%REC	1	11/3/2023 23:32
Surr: Nitrobenzene-d5	41.4			28-140	%REC	1	11/3/2023 23:32
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		3.3	9.1	µg/Kg-dry	1.74	11/3/2023 19:05
1,3,5-Trimethylbenzene	U		2.9	9.1	µg/Kg-dry	1.74	11/3/2023 19:05
Benzene	U		0.95	9.1	µg/Kg-dry	1.74	11/3/2023 19:05
Ethylbenzene	U		1.6	9.1	µg/Kg-dry	1.74	11/3/2023 19:05
m,p-Xylene	U		4.0	4.6	µg/Kg-dry	1.74	11/3/2023 19:05
o-Xylene	U		2.2	4.6	µg/Kg-dry	1.74	11/3/2023 19:05
Toluene	U		3.2	9.1	µg/Kg-dry	1.74	11/3/2023 19:05
Xylenes, Total	U		4.0	9.1	µg/Kg-dry	1.74	11/3/2023 19:05
Surr: 1,2-Dichloroethane-d4	91.8			83-132	%REC	1.74	11/3/2023 19:05
Surr: 4-Bromofluorobenzene	100			83-111	%REC	1.74	11/3/2023 19:05
Surr: Dibromofluoromethane	88.0			77-125	%REC	1.74	11/3/2023 19:05
Surr: Toluene-d8	114	S		86-108	%REC	1.74	11/3/2023 19:05
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B			Prep: USDA Method 20B / 11/3/23	
Electrical Conductivity @ Saturation	0.60		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 11:30
CHROMIUM, HEXAVALENT			Method: SW7196A			Prep: SW3060A / 10/29/23	
Chromium, Hexavalent	U		0.88	1.0	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C			Analyst: SGH	
Moisture	4.5		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B			Prep: USDA Method 20B / 11/3/23	
pH @ Saturation	7.49		0.10	0.10	s.u.-dry	1	11/4/2023 10:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 13
Collection Date: 10/24/2023 11:45 AM

Work Order: 23102586
Lab ID: 23102586-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/3/23		Analyst: SJB
ERO (C10-C36)	18	J	2.8	21	mg/Kg-dry	1	11/4/2023 10:54
Surr: 4-Terphenyl-d14	36.2			34-130	%REC	1	11/4/2023 10:54
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		7,500	8,000	µg/Kg-dry	1	11/1/2023 20:53
Surr: Toluene-d8	106			75-120	%REC	1	11/1/2023 20:53
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	4.3		0.034	0.28	mg/Kg-dry	1	11/2/2023 01:16
Barium	400		2.6	2.8	mg/Kg-dry	10	11/2/2023 17:24
Cadmium	0.059	J	0.017	0.11	mg/Kg-dry	1	11/2/2023 01:16
Copper	8.3		0.28	0.28	mg/Kg-dry	1	11/2/2023 01:16
Lead	9.3		0.14	0.28	mg/Kg-dry	1	11/2/2023 01:16
Nickel	6.8		0.15	0.28	mg/Kg-dry	1	11/2/2023 01:16
Selenium	0.69		0.26	0.28	mg/Kg-dry	1	11/2/2023 01:16
Silver	U		0.037	0.28	mg/Kg-dry	1	11/2/2023 01:16
Zinc	27		0.55	0.56	mg/Kg-dry	1	11/2/2023 01:16
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	100		2.5	5.0	mg/L	10	11/6/2023 19:10
Magnesium	9.6		0.50	2.0	mg/L	10	11/6/2023 19:10
Sodium	4.1		1.8	2.0	mg/L	10	11/6/2023 19:10
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	0.49		0.017	0.42	mg/Kg-dry	10	10/31/2023 19:16
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	0.10		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/3/23		Analyst: SMT
1-Methylnaphthalene	U		0.90	4.4	µg/Kg-dry	1	11/3/2023 23:47
2-Methylnaphthalene	U		1.0	4.4	µg/Kg-dry	1	11/3/2023 23:47
Acenaphthene	U		1.7	4.4	µg/Kg-dry	1	11/3/2023 23:47
Anthracene	U		0.80	4.4	µg/Kg-dry	1	11/3/2023 23:47
Benzo(a)anthracene	U		3.2	4.4	µg/Kg-dry	1	11/3/2023 23:47
Benzo(a)pyrene	U		3.0	4.4	µg/Kg-dry	1	11/3/2023 23:47
Benzo(b)fluoranthene	U		2.6	4.4	µg/Kg-dry	1	11/3/2023 23:47
Benzo(k)fluoranthene	U		0.66	4.4	µg/Kg-dry	1	11/3/2023 23:47
Chrysene	U		2.9	4.4	µg/Kg-dry	1	11/3/2023 23:47

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 13
Collection Date: 10/24/2023 11:45 AM

Work Order: 23102586
Lab ID: 23102586-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		2.6	4.4	µg/Kg-dry	1	11/3/2023 23:47
Fluoranthene	U		2.2	4.4	µg/Kg-dry	1	11/3/2023 23:47
Fluorene	U		1.1	4.4	µg/Kg-dry	1	11/3/2023 23:47
Indeno(1,2,3-cd)pyrene	U		3.0	4.4	µg/Kg-dry	1	11/3/2023 23:47
Naphthalene	U		0.83	4.4	µg/Kg-dry	1	11/3/2023 23:47
Pyrene	U		2.8	4.4	µg/Kg-dry	1	11/3/2023 23:47
Surr: 2-Fluorobiphenyl	41.5			20-140	%REC	1	11/3/2023 23:47
Surr: 4-Terphenyl-d14	38.1			22-172	%REC	1	11/3/2023 23:47
Surr: Nitrobenzene-d5	53.7			28-140	%REC	1	11/3/2023 23:47
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		1.2	3.4	µg/Kg-dry	0.631	11/3/2023 19:23
1,3,5-Trimethylbenzene	U		1.1	3.4	µg/Kg-dry	0.631	11/3/2023 19:23
Benzene	U		0.35	3.4	µg/Kg-dry	0.631	11/3/2023 19:23
Ethylbenzene	U		0.59	3.4	µg/Kg-dry	0.631	11/3/2023 19:23
m,p-Xylene	U		1.5	1.7	µg/Kg-dry	0.631	11/3/2023 19:23
o-Xylene	U		0.81	1.7	µg/Kg-dry	0.631	11/3/2023 19:23
Toluene	U		1.2	3.4	µg/Kg-dry	0.631	11/3/2023 19:23
Xylenes, Total	U		1.5	3.4	µg/Kg-dry	0.631	11/3/2023 19:23
Surr: 1,2-Dichloroethane-d4	109			83-132	%REC	0.631	11/3/2023 19:23
Surr: 4-Bromofluorobenzene	106			83-111	%REC	0.631	11/3/2023 19:23
Surr: Dibromofluoromethane	110			77-125	%REC	0.631	11/3/2023 19:23
Surr: Toluene-d8	95.3			86-108	%REC	0.631	11/3/2023 19:23
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B			Prep: USDA Method 20B / 11/3/23	
Electrical Conductivity @ Saturation	0.64		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 11:30
CHROMIUM, HEXAVALENT			Method: SW7196A			Prep: SW3060A / 10/29/23	
Chromium, Hexavalent	U		0.86	1.0	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C			Analyst: SGH	
Moisture	6.3		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B			Prep: USDA Method 20B / 11/3/23	
pH @ Saturation	7.35		0.11	0.11	s.u.-dry	1	11/4/2023 10:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 14 8'
Collection Date: 10/24/2023 01:00 PM

Work Order: 23102586
Lab ID: 23102586-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/7/23		Analyst: SJB
ERO (C10-C36)	10	J	3.2	24	mg/Kg-dry	1	11/8/2023 07:32
Surr: 4-Terphenyl-d14	14.1	S		34-130	%REC	1	11/8/2023 07:32
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		6,800	7,300	µg/Kg-dry	1	11/1/2023 21:15
Surr: Toluene-d8	104			75-120	%REC	1	11/1/2023 21:15
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	6.3		0.044	0.37	mg/Kg-dry	1	11/2/2023 01:18
Barium	230		3.4	3.7	mg/Kg-dry	10	11/2/2023 17:25
Cadmium	U		0.022	0.15	mg/Kg-dry	1	11/2/2023 01:18
Copper	13		0.37	0.37	mg/Kg-dry	1	11/2/2023 01:18
Lead	15		0.18	0.37	mg/Kg-dry	1	11/2/2023 01:18
Nickel	13		0.19	0.37	mg/Kg-dry	1	11/2/2023 01:18
Selenium	0.48		0.34	0.37	mg/Kg-dry	1	11/2/2023 01:18
Silver	U		0.049	0.37	mg/Kg-dry	1	11/2/2023 01:18
Zinc	47		0.72	0.74	mg/Kg-dry	1	11/2/2023 01:18
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	17		2.5	5.0	mg/L	10	11/6/2023 19:12
Magnesium	1.6	J	0.50	2.0	mg/L	10	11/6/2023 19:12
Sodium	840		1.8	2.0	mg/L	10	11/6/2023 19:12
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	4.7		0.020	0.49	mg/Kg-dry	10	10/31/2023 19:18
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	53		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/7/23		Analyst: SMT
1-Methylnaphthalene	U		1.0	5.0	µg/Kg-dry	1	11/7/2023 18:06
2-Methylnaphthalene	U		1.2	5.0	µg/Kg-dry	1	11/7/2023 18:06
Acenaphthene	U		1.9	5.0	µg/Kg-dry	1	11/7/2023 18:06
Anthracene	U		0.92	5.0	µg/Kg-dry	1	11/7/2023 18:06
Benzo(a)anthracene	U		3.6	5.0	µg/Kg-dry	1	11/7/2023 18:06
Benzo(a)pyrene	U		3.4	5.0	µg/Kg-dry	1	11/7/2023 18:06
Benzo(b)fluoranthene	U		3.0	5.0	µg/Kg-dry	1	11/7/2023 18:06
Benzo(k)fluoranthene	U		0.76	5.0	µg/Kg-dry	1	11/7/2023 18:06
Chrysene	U		3.3	5.0	µg/Kg-dry	1	11/7/2023 18:06

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: SP 14 8'
Collection Date: 10/24/2023 01:00 PM

Work Order: 23102586
Lab ID: 23102586-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		2.9	5.0	µg/Kg-dry	1	11/7/2023 18:06
Fluoranthene	U		2.5	5.0	µg/Kg-dry	1	11/7/2023 18:06
Fluorene	U		1.2	5.0	µg/Kg-dry	1	11/7/2023 18:06
Indeno(1,2,3-cd)pyrene	U		3.5	5.0	µg/Kg-dry	1	11/7/2023 18:06
Naphthalene	U		0.96	5.0	µg/Kg-dry	1	11/7/2023 18:06
Pyrene	U		3.2	5.0	µg/Kg-dry	1	11/7/2023 18:06
Surr: 2-Fluorobiphenyl	45.1			20-140	%REC	1	11/7/2023 18:06
Surr: 4-Terphenyl-d14	18.0	S		22-172	%REC	1	11/7/2023 18:06
Surr: Nitrobenzene-d5	28.7			28-140	%REC	1	11/7/2023 18:06
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		2.2	6.0	µg/Kg-dry	0.977	11/3/2023 19:41
1,3,5-Trimethylbenzene	U		1.9	6.0	µg/Kg-dry	0.977	11/3/2023 19:41
Benzene	U		0.62	6.0	µg/Kg-dry	0.977	11/3/2023 19:41
Ethylbenzene	U		1.0	6.0	µg/Kg-dry	0.977	11/3/2023 19:41
m,p-Xylene	U		2.6	3.0	µg/Kg-dry	0.977	11/3/2023 19:41
o-Xylene	U		1.4	3.0	µg/Kg-dry	0.977	11/3/2023 19:41
Toluene	U		2.1	6.0	µg/Kg-dry	0.977	11/3/2023 19:41
Xylenes, Total	U		2.6	6.0	µg/Kg-dry	0.977	11/3/2023 19:41
Surr: 1,2-Dichloroethane-d4	93.7			83-132	%REC	0.977	11/3/2023 19:41
Surr: 4-Bromofluorobenzene	100			83-111	%REC	0.977	11/3/2023 19:41
Surr: Dibromofluoromethane	90.4			77-125	%REC	0.977	11/3/2023 19:41
Surr: Toluene-d8	95.1			86-108	%REC	0.977	11/3/2023 19:41
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B			Prep: USDA Method 20B / 11/3/23	
Electrical Conductivity @ Saturation	4.6		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 11:30
CHROMIUM, HEXAVALENT			Method: SW7196A			Prep: SW3060A / 10/29/23	
Chromium, Hexavalent	U		0.99	1.2	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C			Analyst: SGH	
Moisture	19		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B			Prep: USDA Method 20B / 11/3/23	
pH @ Saturation	8.45		0.12	0.12	s.u.-dry	1	11/4/2023 10:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: Duplicate A
Collection Date: 10/24/2023

Work Order: 23102586
Lab ID: 23102586-11
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3546 / 11/7/23		Analyst: SJB
ERO (C10-C36)	7.7	J	2.7	21	mg/Kg-dry	1	11/8/2023 08:10
Surr: 4-Terphenyl-d14	42.3			34-130	%REC	1	11/8/2023 08:10
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW5035A / 10/31/23		Analyst: SJB
GRO (C6-C10)	U		8,900	9,600	µg/Kg-dry	1	11/1/2023 21:38
Surr: Toluene-d8	108			75-120	%REC	1	11/1/2023 21:38
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 11/1/23		Analyst: STP
Arsenic	5.0		0.036	0.30	mg/Kg-dry	1	11/2/2023 01:20
Barium	140		2.8	3.0	mg/Kg-dry	10	11/2/2023 17:27
Cadmium	0.090	J	0.018	0.12	mg/Kg-dry	1	11/2/2023 01:20
Copper	8.0		0.30	0.30	mg/Kg-dry	1	11/2/2023 01:20
Lead	11		0.14	0.30	mg/Kg-dry	1	11/2/2023 01:20
Nickel	8.0		0.16	0.30	mg/Kg-dry	1	11/2/2023 01:20
Selenium	0.46		0.28	0.30	mg/Kg-dry	1	11/2/2023 01:20
Silver	U		0.040	0.30	mg/Kg-dry	1	11/2/2023 01:20
Zinc	29		0.59	0.60	mg/Kg-dry	1	11/2/2023 01:20
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Calcium	110		2.5	5.0	mg/L	10	11/6/2023 19:14
Magnesium	11		0.50	2.0	mg/L	10	11/6/2023 19:14
Sodium	81		1.8	2.0	mg/L	10	11/6/2023 19:14
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 10/31/23		Analyst: DSC
Boron (Hot Water Soluble)	0.71		0.017	0.42	mg/Kg-dry	10	10/31/2023 19:23
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: STP
Sodium Adsorption Ratio	2.0		0.010	0.010	none	1	11/6/2023
POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)							
			Method: SW8270E		Prep: SW3546 / 11/3/23		Analyst: SMT
1-Methylnaphthalene	U		0.89	4.4	µg/Kg-dry	1	11/4/2023 00:18
2-Methylnaphthalene	U		1.0	4.4	µg/Kg-dry	1	11/4/2023 00:18
Acenaphthene	U		1.7	4.4	µg/Kg-dry	1	11/4/2023 00:18
Anthracene	U		0.80	4.4	µg/Kg-dry	1	11/4/2023 00:18
Benzo(a)anthracene	U		3.2	4.4	µg/Kg-dry	1	11/4/2023 00:18
Benzo(a)pyrene	U		3.0	4.4	µg/Kg-dry	1	11/4/2023 00:18
Benzo(b)fluoranthene	U		2.6	4.4	µg/Kg-dry	1	11/4/2023 00:18
Benzo(k)fluoranthene	U		0.66	4.4	µg/Kg-dry	1	11/4/2023 00:18
Chrysene	U		2.9	4.4	µg/Kg-dry	1	11/4/2023 00:18

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: Duplicate A
Collection Date: 10/24/2023

Work Order: 23102586
Lab ID: 23102586-11
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		2.5	4.4	µg/Kg-dry	1	11/4/2023 00:18
Fluoranthene	U		2.2	4.4	µg/Kg-dry	1	11/4/2023 00:18
Fluorene	U		1.1	4.4	µg/Kg-dry	1	11/4/2023 00:18
Indeno(1,2,3-cd)pyrene	U		3.0	4.4	µg/Kg-dry	1	11/4/2023 00:18
Naphthalene	U		0.83	4.4	µg/Kg-dry	1	11/4/2023 00:18
Pyrene	U		2.8	4.4	µg/Kg-dry	1	11/4/2023 00:18
Surr: 2-Fluorobiphenyl	24.9			20-140	%REC	1	11/4/2023 00:18
Surr: 4-Terphenyl-d14	24.9			22-172	%REC	1	11/4/2023 00:18
Surr: Nitrobenzene-d5	32.6			28-140	%REC	1	11/4/2023 00:18
VOLATILE ORGANIC COMPOUNDS			Method: SW8260D		Prep: SW5035A / 10/31/23		Analyst: EZH
1,2,4-Trimethylbenzene	U		42	57	µg/Kg-dry	1	11/6/2023 20:13
1,3,5-Trimethylbenzene	U		41	190	µg/Kg-dry	1	11/6/2023 20:13
Benzene	U		28	57	µg/Kg-dry	1	11/6/2023 20:13
Ethylbenzene	U		41	57	µg/Kg-dry	1	11/6/2023 20:13
m,p-Xylene	U		77	110	µg/Kg-dry	1	11/6/2023 20:13
o-Xylene	U		22	57	µg/Kg-dry	1	11/6/2023 20:13
Toluene	U		47	57	µg/Kg-dry	1	11/6/2023 20:13
Xylenes, Total	U		77	170	µg/Kg-dry	1	11/6/2023 20:13
Surr: 1,2-Dichloroethane-d4	100			80-120	%REC	1	11/6/2023 20:13
Surr: 4-Bromofluorobenzene	98.9			80-120	%REC	1	11/6/2023 20:13
Surr: Dibromofluoromethane	96.1			80-120	%REC	1	11/6/2023 20:13
Surr: Toluene-d8	105			80-120	%REC	1	11/6/2023 20:13
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: CLJ
Electrical Conductivity @ Saturation	0.90		0.011	0.10	mmhos/cm @25°C	20	11/4/2023 11:30
CHROMIUM, HEXAVALENT			Method: SW7196A		Prep: SW3060A / 10/29/23		Analyst: AXW
Chromium, Hexavalent	U		0.88	1.0	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE			Method: SW3550C				Analyst: SGH
Moisture	4.4		0.10	0.10	% of sample	1	10/31/2023 13:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B		Prep: USDA Method 20B / 11/3/23		Analyst: CLJ
pH @ Saturation	7.50		0.10	0.10	s.u.-dry	1	11/4/2023 10:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Nov-23

Client: Mull Drilling Company
Project: Mauer Location
Sample ID: Trip Blank
Collection Date: 10/24/2023

Work Order: 23102586
Lab ID: 23102586-12
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - LOW LEVEL			Method: SW8260D			Analyst: SBR	
1,2,4-Trimethylbenzene	U		1.8	5.0	µg/Kg	1	11/3/2023 12:46
1,3,5-Trimethylbenzene	U		1.6	5.0	µg/Kg	1	11/3/2023 12:46
Benzene	U		0.52	5.0	µg/Kg	1	11/3/2023 12:46
Ethylbenzene	U		0.87	5.0	µg/Kg	1	11/3/2023 12:46
m,p-Xylene	U		2.2	2.5	µg/Kg	1	11/3/2023 12:46
o-Xylene	U		1.2	2.5	µg/Kg	1	11/3/2023 12:46
Toluene	U		1.7	5.0	µg/Kg	1	11/3/2023 12:46
Xylenes, Total	U		2.2	5.0	µg/Kg	1	11/3/2023 12:46
Surr: 1,2-Dichloroethane-d4	100			83-132	%REC	1	11/3/2023 12:46
Surr: 4-Bromofluorobenzene	97.5			83-111	%REC	1	11/3/2023 12:46
Surr: Dibromofluoromethane	98.0			77-125	%REC	1	11/3/2023 12:46
Surr: Toluene-d8	96.6			86-108	%REC	1	11/3/2023 12:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228464** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-228464-228464				Units: mg/Kg		Analysis Date: 11/2/2023 03:50 PM		
Client ID:		Run ID: GC8_231102A				SeqNo: 10170344		Prep Date: 11/2/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	2.867	20								J
<i>Surr: 4-Terphenyl-d14</i>	<i>0.5</i>	<i>0</i>	<i>0.828</i>	<i>0</i>	<i>60.4</i>	<i>34-130</i>	<i>0</i>			

LCS		Sample ID: DLCSS1-228464-228464				Units: mg/Kg		Analysis Date: 11/2/2023 04:27 PM		
Client ID:		Run ID: GC8_231102A				SeqNo: 10170345		Prep Date: 11/2/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	678.9	20	833	0	81.5	50-150	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>0.5833</i>	<i>0</i>	<i>0.828</i>	<i>0</i>	<i>70.5</i>	<i>34-130</i>	<i>0</i>			

MS		Sample ID: 23102586-04A MS				Units: mg/Kg		Analysis Date: 11/3/2023 08:22 PM		
Client ID: SP 8		Run ID: GC8_231102A				SeqNo: 10170383		Prep Date: 11/2/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	893.3	20	826.9	66.95	99.9	50-150	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>0.5956</i>	<i>0</i>	<i>0.822</i>	<i>0</i>	<i>72.5</i>	<i>34-130</i>	<i>0</i>			

MSD		Sample ID: 23102586-04A MSD				Units: mg/Kg		Analysis Date: 11/3/2023 08:59 PM		
Client ID: SP 8		Run ID: GC8_231102A				SeqNo: 10170384		Prep Date: 11/2/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	866.5	20	823.7	66.95	97.1	50-150	893.3	3.05	30	
<i>Surr: 4-Terphenyl-d14</i>	<i>0.5768</i>	<i>0</i>	<i>0.8188</i>	<i>0</i>	<i>70.5</i>	<i>34-130</i>	<i>0.5956</i>	<i>3.21</i>	<i>30</i>	

The following samples were analyzed in this batch:

23102586-01A	23102586-02A	23102586-03A
23102586-04A	23102586-05A	23102586-06A

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228541** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-228541-228541				Units: mg/Kg		Analysis Date: 11/4/2023 01:56 AM		
Client ID:		Run ID: GC8_231102A				SeqNo: 10170392		Prep Date: 11/3/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	4.95	20								J
Surr: 4-Terphenyl-d14	0.4833	0	0.828	0	58.4	34-130	0			

LCS		Sample ID: DLCSS1-228541-228541				Units: mg/Kg		Analysis Date: 11/4/2023 02:33 AM		
Client ID:		Run ID: GC8_231102A				SeqNo: 10170393		Prep Date: 11/3/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	708.6	20	833	0	85.1	50-150	0			
Surr: 4-Terphenyl-d14	0.5833	0	0.828	0	70.5	34-130	0			

MS		Sample ID: 23102586-10A MS				Units: mg/Kg		Analysis Date: 11/4/2023 03:09 AM		
Client ID: SP 14 8'		Run ID: GC8_231102A				SeqNo: 10170394		Prep Date: 11/3/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	768.5	20	828	35.01	88.6	50-150	0			
Surr: 4-Terphenyl-d14	0.4805	0	0.8231	0	58.4	34-130	0			

MSD		Sample ID: 23102586-10A MSD				Units: mg/Kg		Analysis Date: 11/4/2023 03:46 AM		
Client ID: SP 14 8'		Run ID: GC8_231102A				SeqNo: 10170395		Prep Date: 11/3/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	219.6	20	815.1	35.01	22.6	50-150	768.5	111	30	SR
Surr: 4-Terphenyl-d14	0.1631	0	0.8102	0	20.1	34-130	0.4805	98.6	30	SR

The following samples were analyzed in this batch:

23102586-07A	23102586-08A	23102586-09A
23102586-10A	23102586-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228715** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-228715-228715				Units: mg/Kg		Analysis Date: 11/7/2023 08:18 PM		
Client ID:		Run ID: GC8_231107D				SeqNo: 10179363		Prep Date: 11/7/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	3.8	20								J
Surr: 4-Terphenyl-d14	0.5167	0	0.828	0	62.4	34-130	0			

LCS		Sample ID: DLCSS1-228715-228715				Units: mg/Kg		Analysis Date: 11/7/2023 08:55 PM		
Client ID:		Run ID: GC8_231107D				SeqNo: 10179364		Prep Date: 11/7/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	709.5	20	833	0	85.2	50-150	0			
Surr: 4-Terphenyl-d14	0.6167	0	0.828	0	74.5	34-130	0			

MS		Sample ID: 23102585-06A MS				Units: mg/Kg		Analysis Date: 11/7/2023 09:33 PM		
Client ID:		Run ID: GC8_231107D				SeqNo: 10179365		Prep Date: 11/7/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	326.7	19	803.5	4.161	40.1	50-150	0			S
Surr: 4-Terphenyl-d14	0.1286	0	0.7987	0	16.1	34-130	0			S

MSD		Sample ID: 23102585-06A MSD				Units: mg/Kg		Analysis Date: 11/7/2023 10:10 PM		
Client ID:		Run ID: GC8_231107D				SeqNo: 10179366		Prep Date: 11/7/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	148.8	19	796.9	4.161	18.1	50-150	326.7	74.8	30	SR
Surr: 4-Terphenyl-d14	0.09566	0	0.7921	0	12.1	34-130	0.1286	29.4	30	S

The following samples were analyzed in this batch:

23102586-06A	23102586-08A	23102586-10A
23102586-11A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228305** Instrument ID **GC9** Method: **SW8015C**

MBLK		Sample ID: MBLK-228305-228305				Units: µg/Kg-dry		Analysis Date: 11/1/2023 03:20 PM		
Client ID:		Run ID: GC9_231101A				SeqNo: 10157154		Prep Date: 10/31/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	5,000	0	0	0		0			
Surr: Toluene-d8	4982	0	5000	0	99.6	75-120	0			

LCS		Sample ID: LCS-228305-228305				Units: µg/Kg-dry		Analysis Date: 11/1/2023 02:35 PM		
Client ID:		Run ID: GC9_231101A				SeqNo: 10157153		Prep Date: 10/31/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	254800	5,000	250000	0	102	63-126	0			
Surr: Toluene-d8	5464	0	5000	0	109	75-120	0			

MS		Sample ID: 23102586-07C MS				Units: µg/Kg-dry		Analysis Date: 11/1/2023 05:55 PM		
Client ID: SP 11		Run ID: GC9_231101A				SeqNo: 10157161		Prep Date: 10/31/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	248400	4,900	242700	0	102	63-126	0			
Surr: Toluene-d8	5451	0	4855	0	112	75-120	0			

MSD		Sample ID: 23102586-07C MSD				Units: µg/Kg-dry		Analysis Date: 11/1/2023 06:18 PM		
Client ID: SP 11		Run ID: GC9_231101A				SeqNo: 10157162		Prep Date: 10/31/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	317400	4,900	242700	0	131	63-126	248400	24.4	30	S
Surr: Toluene-d8	5804	0	4855	0	120	75-120	5451	6.28	30	

The following samples were analyzed in this batch:

23102586-01C	23102586-02C	23102586-03C
23102586-04C	23102586-05C	23102586-06C
23102586-07C	23102586-08C	23102586-09C
23102586-10C	23102586-11C	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228316** Instrument ID **ICPMS3** Method: **SW6020B**

Sample ID: MBLK-228316-228316				Units: mg/Kg		Analysis Date: 11/1/2023 11:54 PM				
Client ID:		Run ID: ICPMS3_231101B			SeqNo: 10155917		Prep Date: 11/1/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	U	0.25								
Cadmium	U	0.10								
Copper	U	0.25								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								
Zinc	U	0.50								

LCS					Sample ID: LCS-228316-228316			Units: mg/Kg		Analysis Date: 11/1/2023 11:56 PM		
Client ID:			Run ID: ICPMS3_231101B			SeqNo: 10155918		Prep Date: 11/1/2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	5.078	0.25	5	0	102	80-120	0					
Barium	5.211	0.25	5	0	104	80-120	0					
Cadmium	5.167	0.10	5	0	103	80-120	0					
Copper	5.3	0.25	5	0	106	80-120	0					
Lead	5.232	0.25	5	0	105	80-120	0					
Nickel	5.29	0.25	5	0	106	80-120	0					
Selenium	5.188	0.25	5	0	104	80-120	0					
Silver	5.228	0.25	5	0	105	80-120	0					
Zinc	5.213	0.50	5	0	104	80-120	0					

MS				Sample ID: 23102585-01AMS				Units: mg/Kg		Analysis Date: 11/2/2023	
Client ID:			Run ID: ICPMS3_231101B			SeqNo: 10155920		Prep Date: 11/1/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	8.85	0.31	6.234	3.981	78.1	75-125	0				
Lead	17.61	0.31	6.234	10.95	107	75-125	0				
Nickel	14.53	0.31	6.234	9.341	83.2	75-125	0				
Zinc	39.57	0.62	6.234	31.02	137	75-125	0			SO	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228316** Instrument ID **ICPMS3** Method: **SW6020B**

MS				Sample ID: 23102585-01AMS			Units: mg/Kg		Analysis Date: 11/2/2023 04:29 PM	
Client ID:		Run ID: ICPMS3_231102B			SeqNo: 10159902		Prep Date: 11/1/2023		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	214.3	3.1	6.234	169.6	717	75-125	0			SO
Cadmium	6.227	1.2	6.234	0.129	97.8	75-125	0			
Copper	19.16	3.1	6.234	12.13	113	75-125	0			
Selenium	5.671	3.1	6.234	0.7299	79.3	75-125	0			
Silver	6.601	3.1	6.234	0.03811	105	75-125	0			

MSD				Sample ID: 23102585-01AMSD			Units: mg/Kg		Analysis Date: 11/2/2023 12:02 AM	
Client ID:		Run ID: ICPMS3_231101B			SeqNo: 10155921		Prep Date: 11/1/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.658	0.31	6.142	3.981	76.2	75-125	8.85	2.19	20	
Lead	17.25	0.31	6.142	10.95	103	75-125	17.61	2.02	20	
Nickel	14.29	0.31	6.142	9.341	80.6	75-125	14.53	1.61	20	
Zinc	38.22	0.61	6.142	31.02	117	75-125	39.57	3.47	20	O

MSD				Sample ID: 23102585-01AMSD			Units: mg/Kg		Analysis Date: 11/2/2023 04:31 PM	
Client ID:		Run ID: ICPMS3_231102B			SeqNo: 10159903		Prep Date: 11/1/2023		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	310.9	3.1	6.142	169.6	2300	75-125	214.3	36.8	20	SRO
Cadmium	6.436	1.2	6.142	0.129	103	75-125	6.227	3.29	20	
Copper	18.49	3.1	6.142	12.13	104	75-125	19.16	3.57	20	
Selenium	6.318	3.1	6.142	0.7299	91	75-125	5.671	10.8	20	
Silver	6.46	3.1	6.142	0.03811	105	75-125	6.601	2.15	20	

The following samples were analyzed in this batch:

23102586-01A	23102586-02A	23102586-03A
23102586-04A	23102586-05A	23102586-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228317** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK		Sample ID: MBLK-228317-228317				Units: mg/Kg		Analysis Date: 10/31/2023 06:13 PM		
Client ID:		Run ID: ICPMS3_231031B		SeqNo: 10150529		Prep Date: 10/31/2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron (Hot Water Soluble)	0.01074	0.040								J

LCS		Sample ID: LCS-228317-228317				Units: mg/Kg		Analysis Date: 10/31/2023 06:15 PM		
Client ID:		Run ID: ICPMS3_231031B		SeqNo: 10150530		Prep Date: 10/31/2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron (Hot Water Soluble)	0.8809	0.040	1	0	88.1	80-120		0		

The following samples were analyzed in this batch:

23102586-01A	23102586-02A	23102586-03A
23102586-04A	23102586-05A	23102586-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228324** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK		Sample ID: MBLK-228324-228324				Units: mg/Kg		Analysis Date: 10/31/2023 07:03 PM		
Client ID:		Run ID: ICPMS3_231031B		SeqNo: 10150557		Prep Date: 10/31/2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron (Hot Water Soluble)	0.008178	0.040								J

LCS		Sample ID: LCS-228324-228324				Units: mg/Kg		Analysis Date: 10/31/2023 07:04 PM		
Client ID:		Run ID: ICPMS3_231031B		SeqNo: 10150558		Prep Date: 10/31/2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron (Hot Water Soluble)	0.8744	0.040	1	0	87.4	80-120		0		

The following samples were analyzed in this batch:

23102586-07A	23102586-08A	23102586-09A
23102586-10A	23102586-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228325** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK				Sample ID: MBLK-228325-228325				Units: mg/Kg			Analysis Date: 11/2/2023 12:54 AM		
Client ID:			Run ID: ICPMS3_231101B				SeqNo: 10155948		Prep Date: 11/1/2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Arsenic	U	0.25											
Barium	U	0.25											
Cadmium	U	0.10											
Copper	U	0.25											
Lead	U	0.25											
Nickel	U	0.25											
Selenium	U	0.25											
Silver	U	0.25											
Zinc	U	0.50											

LCS					Sample ID: LCS-228325-228325			Units: mg/Kg		Analysis Date: 11/2/2023 12:56 AM		
Client ID:			Run ID: ICPMS3_231101B			SeqNo: 10155949		Prep Date: 11/1/2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	5.136	0.25	5	0	103	80-120	0					
Barium	5.163	0.25	5	0	103	80-120	0					
Cadmium	4.945	0.10	5	0	98.9	80-120	0					
Copper	5.179	0.25	5	0	104	80-120	0					
Lead	5.209	0.25	5	0	104	80-120	0					
Nickel	5.239	0.25	5	0	105	80-120	0					
Selenium	5.103	0.25	5	0	102	80-120	0					
Silver	5.035	0.25	5	0	101	80-120	0					
Zinc	5.044	0.50	5	0	101	80-120	0					

MS				Sample ID: 23102584-04AMS				Units: mg/Kg		Analysis Date: 11/2/2023 01:05 AM		
Client ID:			Run ID: ICPMS3_231101B			SeqNo: 10155954		Prep Date: 11/1/2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	7.534	0.26	5.16	3.185	84.3	75-125	0					
Cadmium	4.243	0.10	5.16	0.1231	79.8	75-125	0					
Nickel	10.84	0.26	5.16	6.581	82.6	75-125	0					
Selenium	4.696	0.26	5.16	0.4143	83	75-125	0					
Silver	4.185	0.26	5.16	0.02433	80.6	75-125	0					
Zinc	33.08	0.52	5.16	23.13	193	75-125	0			SO		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
 Work Order: 23102586
 Project: Mauer Location

QC BATCH REPORT

Batch ID: **228325** Instrument ID **ICPMS3** Method: **SW6020B**

MS				Sample ID: 23102584-04AMS			Units: mg/Kg		Analysis Date: 11/2/2023 05:14 PM	
Client ID:		Run ID: ICPMS3_231102B			SeqNo: 10159927		Prep Date: 11/1/2023		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	92.48	2.6	5.16	91.54	18.3	75-125	0			SO
Copper	12.77	2.6	5.16	8.111	90.2	75-125	0			
Lead	22.42	2.6	5.16	14.92	146	75-125	0			S

MSD				Sample ID: 23102584-04AMSD			Units: mg/Kg		Analysis Date: 11/2/2023 01:07 AM	
Client ID:		Run ID: ICPMS3_231101B			SeqNo: 10155955		Prep Date: 11/1/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.624	0.27	5.336	3.185	83.2	75-125	7.534	1.18	20	
Cadmium	4.435	0.11	5.336	0.1231	80.8	75-125	4.243	4.44	20	
Nickel	11.08	0.27	5.336	6.581	84.2	75-125	10.84	2.11	20	
Selenium	4.88	0.27	5.336	0.4143	83.7	75-125	4.696	3.83	20	
Silver	4.336	0.27	5.336	0.02433	80.8	75-125	4.185	3.54	20	
Zinc	27.31	0.53	5.336	23.13	78.3	75-125	33.08	19.1	20	O

MSD				Sample ID: 23102584-04AMSD			Units: mg/Kg		Analysis Date: 11/2/2023 05:15 PM	
Client ID:		Run ID: ICPMS3_231102B			SeqNo: 10159928		Prep Date: 11/1/2023		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	92.22	2.7	5.336	91.54	12.7	75-125	92.48	0.287	20	SO
Copper	13.1	2.7	5.336	8.111	93.5	75-125	12.77	2.58	20	
Lead	19.34	2.7	5.336	14.92	82.9	75-125	22.42	14.8	20	

The following samples were analyzed in this batch:

23102586-07A	23102586-08A	23102586-09A
23102586-10A	23102586-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: 228578 Instrument ID ICPMS3 Method: SW6020B

DUP		Sample ID: 23102585-09ADUP				Units: mg/L		Analysis Date: 11/6/2023 06:33 PM		
Client ID:		Run ID: ICPMS3_231106A				SeqNo: 10172339		Prep Date: 11/3/2023		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	454.5	5.0	0	0	0	0-0	376.4	18.8		
Magnesium	105.8	2.0	0	0	0	0-0	87.15	19.3		
Sodium	439.5	2.0	0	0	0	0-0	371.5	16.8		

The following samples were analyzed in this batch:	23102586-01A	23102586-02A	23102586-03A
	23102586-04A	23102586-05A	23102586-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: 228580 Instrument ID ICPMS3 Method: SW6020B

DUP		Sample ID: 23102586-11ADUP				Units: mg/L		Analysis Date: 11/6/2023 07:15 PM		
Client ID: Duplicate A		Run ID: ICPMS3_231106A				SeqNo: 10172364		Prep Date: 11/3/2023		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	48.69	5.0	0	0	0	0-0	107.7	75.5		
Magnesium	8.539	2.0	0	0	0	0-0	11.41	28.8		
Sodium	69.27	2.0	0	0	0	0-0	81.06	15.7		

The following samples were analyzed in this batch:

23102586-07A	23102586-08A	23102586-09A
23102586-10A	23102586-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: 228578 Instrument ID SAR Method: USDA H60 Metho

DUP		Sample ID: 23102585-09ADUP				Units: none		Analysis Date: 11/6/2023		
Client ID:		Run ID: SAR_231106A				SeqNo: 10172827		Prep Date: 11/3/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	4.826	0.010	0	0	0		4.486	7.3	50	

The following samples were analyzed in this batch:	23102586-01A	23102586-02A	23102586-03A
	23102586-04A	23102586-05A	23102586-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: 228580 Instrument ID SAR Method: USDA H60 Metho

DUP		Sample ID: 23102586-11ADUP				Units: none		Analysis Date: 11/6/2023		
Client ID: Duplicate A		Run ID: SAR_231106B				SeqNo: 10172848		Prep Date: 11/3/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	2.408	0.010	0	0	0		1.985	19.3	50	

The following samples were analyzed in this batch:

23102586-07A	23102586-08A	23102586-09A
23102586-10A	23102586-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
 Work Order: 23102586
 Project: Mauer Location

QC BATCH REPORT

Batch ID: **228463** Instrument ID **SVMS6** Method: **SW8270E**

MBLK				Sample ID: SBLKS1-228463-228463				Units: µg/Kg		Analysis Date: 11/2/2023 04:32 PM		
Client ID:			Run ID: SVMS6_231102B			SeqNo: 10162113		Prep Date: 11/2/2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
1-Methylnaphthalene	U	4.2										
2-Methylnaphthalene	U	4.2										
Acenaphthene	U	4.2										
Anthracene	U	4.2										
Benzo(a)anthracene	U	4.2										
Benzo(a)pyrene	U	4.2										
Benzo(b)fluoranthene	U	4.2										
Benzo(k)fluoranthene	U	4.2										
Chrysene	U	4.2										
Dibenzo(a,h)anthracene	U	4.2										
Fluoranthene	U	4.2										
Fluorene	U	4.2										
Indeno(1,2,3-cd)pyrene	U	4.2										
Naphthalene	U	4.2										
Pyrene	U	4.2										
Surr: 2-Fluorobiphenyl	599.3	0	666.6	0	89.9	20-140		0				
Surr: 4-Terphenyl-d14	582.3	0	666.6	0	87.3	22-172		0				
Surr: Nitrobenzene-d5	709.3	0	666.6	0	106	28-140		0				

LCS					Sample ID: SLCSS1-228463-228463		Units: µg/Kg		Analysis Date: 11/2/2023 04:48 PM		
Client ID:			Run ID: SVMS6_231102B			SeqNo: 10162114		Prep Date: 11/2/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	684.9	4.2	666.6	0	103	40-140	0				
2-Methylnaphthalene	809	4.2	666.6	0	121	40-140	0				
Acenaphthene	719.9	4.2	666.6	0	108	40-140	0				
Anthracene	727.2	4.2	666.6	0	109	40-140	0				
Benzo(a)anthracene	704.8	4.2	666.6	0	106	40-140	0				
Benzo(a)pyrene	697.8	4.2	666.6	0	105	40-140	0				
Benzo(b)fluoranthene	604.3	4.2	666.6	0	90.6	40-140	0				
Benzo(k)fluoranthene	683.9	4.2	666.6	0	103	40-140	0				
Chrysene	744.2	4.2	666.6	0	112	40-140	0				
Dibenzo(a,h)anthracene	638	4.2	666.6	0	95.7	40-140	0				
Fluoranthene	724.7	4.2	666.6	0	109	40-140	0				
Fluorene	678.3	4.2	666.6	0	102	40-140	0				
Indeno(1,2,3-cd)pyrene	648.6	4.2	666.6	0	97.3	40-140	0				
Naphthalene	745.8	4.2	666.6	0	112	40-140	0				
Pyrene	701.7	4.2	666.6	0	105	40-140	0				
Surr: 2-Fluorobiphenyl	557.7	0	666.6	0	83.7	20-140	0				
Surr: 4-Terphenyl-d14	537.4	0	666.6	0	80.6	22-172	0				
Surr: Nitrobenzene-d5	599.1	0	666.6	0	89.9	28-140	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228463** Instrument ID **SVMS6** Method: **SW8270E**

MS				Sample ID: 23102585-07A MS			Units: µg/Kg		Analysis Date: 11/2/2023 10:34 PM	
Client ID:		Run ID: SVMS6_231102B			SeqNo: 10162115		Prep Date: 11/2/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	395.6	4.0	646	0	61.2	40-140	0			
2-Methylnaphthalene	406.6	4.0	646	0	62.9	40-140	0			
Acenaphthene	426.9	4.0	646	0	66.1	40-140	0			
Anthracene	438	4.0	646	0	67.8	40-140	0			
Benzo(a)anthracene	416.9	4.0	646	0	64.5	40-140	0			
Benzo(a)pyrene	429.7	4.0	646	0	66.5	40-140	0			
Benzo(b)fluoranthene	380.7	4.0	646	0	58.9	40-140	0			
Benzo(k)fluoranthene	409.6	4.0	646	0	63.4	40-140	0			
Chrysene	454.9	4.0	646	0	70.4	40-140	0			
Dibenzo(a,h)anthracene	373.4	4.0	646	0	57.8	40-140	0			
Fluoranthene	445.2	4.0	646	0	68.9	40-140	0			
Fluorene	403.4	4.0	646	0	62.5	40-140	0			
Indeno(1,2,3-cd)pyrene	382.4	4.0	646	0	59.2	40-140	0			
Naphthalene	446.2	4.0	646	0	69.1	40-140	0			
Pyrene	414.3	4.0	646	0	64.1	40-140	0			
<i>Surr: 2-Fluorobiphenyl</i>	335.9	0	646	0	52	20-140	0			
<i>Surr: 4-Terphenyl-d14</i>	321.9	0	646	0	49.8	22-172	0			
<i>Surr: Nitrobenzene-d5</i>	390.5	0	646	0	60.5	28-140	0			

MSD				Sample ID: 23102585-07A MSD			Units: µg/Kg		Analysis Date: 11/2/2023 10:50 PM	
Client ID:		Run ID: SVMS6_231102B			SeqNo: 10162116		Prep Date: 11/2/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	477.2	4.1	659.1	0	72.4	40-140	395.6	18.7	30	
2-Methylnaphthalene	489.1	4.1	659.1	0	74.2	40-140	406.6	18.4	30	
Acenaphthene	523	4.1	659.1	0	79.4	40-140	426.9	20.2	30	
Anthracene	532.5	4.1	659.1	0	80.8	40-140	438	19.5	30	
Benzo(a)anthracene	506.9	4.1	659.1	0	76.9	40-140	416.9	19.5	30	
Benzo(a)pyrene	519.4	4.1	659.1	0	78.8	40-140	429.7	18.9	30	
Benzo(b)fluoranthene	450.7	4.1	659.1	0	68.4	40-140	380.7	16.8	30	
Benzo(k)fluoranthene	519.5	4.1	659.1	0	78.8	40-140	409.6	23.7	30	
Chrysene	549.2	4.1	659.1	0	83.3	40-140	454.9	18.8	30	
Dibenzo(a,h)anthracene	455	4.1	659.1	0	69	40-140	373.4	19.7	30	
Fluoranthene	518	4.1	659.1	0	78.6	40-140	445.2	15.1	30	
Fluorene	500.1	4.1	659.1	0	75.9	40-140	403.4	21.4	30	
Indeno(1,2,3-cd)pyrene	440	4.1	659.1	0	66.8	40-140	382.4	14	30	
Naphthalene	542.7	4.1	659.1	0	82.4	40-140	446.2	19.5	30	
Pyrene	525.2	4.1	659.1	0	79.7	40-140	414.3	23.6	30	
<i>Surr: 2-Fluorobiphenyl</i>	413.6	0	659.1	0	62.8	20-140	335.9	20.7	30	
<i>Surr: 4-Terphenyl-d14</i>	391.6	0	659.1	0	59.4	22-172	321.9	19.5	30	
<i>Surr: Nitrobenzene-d5</i>	454.2	0	659.1	0	68.9	28-140	390.5	15.1	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228463** Instrument ID **SVMS6** Method: **SW8270E**

The following samples were analyzed in this batch:

23102586-01A	23102586-02A	23102586-03A
23102586-04A	23102586-05A	23102586-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
 Work Order: 23102586
 Project: Mauer Location

QC BATCH REPORT

Batch ID: **228540** Instrument ID **SVMS6** Method: **SW8270E**

MBLK				Sample ID: SBLKS1-228540-228540			Units: µg/Kg		Analysis Date: 11/3/2023 01:58 PM		
Client ID:			Run ID: SVMS6_231103A			SeqNo: 10168530		Prep Date: 11/3/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	U	4.2									
2-Methylnaphthalene	U	4.2									
Acenaphthene	U	4.2									
Anthracene	U	4.2									
Benzo(a)anthracene	U	4.2									
Benzo(a)pyrene	U	4.2									
Benzo(b)fluoranthene	U	4.2									
Benzo(k)fluoranthene	U	4.2									
Chrysene	U	4.2									
Dibenzo(a,h)anthracene	U	4.2									
Fluoranthene	U	4.2									
Fluorene	U	4.2									
Indeno(1,2,3-cd)pyrene	U	4.2									
Naphthalene	U	4.2									
Pyrene	U	4.2									
Surr: 2-Fluorobiphenyl	564.7	0	666.6	0	84.7	20-140		0			
Surr: 4-Terphenyl-d14	555	0	666.6	0	83.3	22-172		0			
Surr: Nitrobenzene-d5	673.6	0	666.6	0	101	28-140		0			

LCS				Sample ID: SLCSS1-228540-228540			Units: µg/Kg		Analysis Date: 11/3/2023 02:29 PM		
Client ID:			Run ID: SVMS6_231103A			SeqNo: 10168533		Prep Date: 11/3/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	628.4	4.2	666.6	0	94.3	40-140	0				
2-Methylnaphthalene	829.7	4.2	666.6	0	124	40-140	0				
Acenaphthene	667.9	4.2	666.6	0	100	40-140	0				
Anthracene	692.6	4.2	666.6	0	104	40-140	0				
Benzo(a)anthracene	645.8	4.2	666.6	0	96.9	40-140	0				
Benzo(a)pyrene	651	4.2	666.6	0	97.7	40-140	0				
Benzo(b)fluoranthene	585.2	4.2	666.6	0	87.8	40-140	0				
Benzo(k)fluoranthene	610.6	4.2	666.6	0	91.6	40-140	0				
Chrysene	693.3	4.2	666.6	0	104	40-140	0				
Dibenzo(a,h)anthracene	586.4	4.2	666.6	0	88	40-140	0				
Fluoranthene	698.8	4.2	666.6	0	105	40-140	0				
Fluorene	629.4	4.2	666.6	0	94.4	40-140	0				
Indeno(1,2,3-cd)pyrene	593.3	4.2	666.6	0	89	40-140	0				
Naphthalene	697.3	4.2	666.6	0	105	40-140	0				
Pyrene	647.9	4.2	666.6	0	97.2	40-140	0				
Surr: 2-Fluorobiphenyl	534.1	0	666.6	0	80.1	20-140	0				
Surr: 4-Terphenyl-d14	534.8	0	666.6	0	80.2	22-172	0				
Surr: Nitrobenzene-d5	600.6	0	666.6	0	90.1	28-140	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228540** Instrument ID **SVMS6** Method: **SW8270E**

The following samples were analyzed in this batch:

23102586-07A	23102586-08A	23102586-09A
23102586-10A	23102586-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
 Work Order: 23102586
 Project: Mauer Location

QC BATCH REPORT

Batch ID: **228716** Instrument ID **SVMS6** Method: **SW8270E**

MBLK				Sample ID: SBLKS1-228716-228716			Units: µg/Kg		Analysis Date: 11/7/2023 04:02 PM		
Client ID:			Run ID: SVMS6_231107A			SeqNo: 10176763		Prep Date: 11/7/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	U	4.2									
2-Methylnaphthalene	U	4.2									
Acenaphthene	U	4.2									
Anthracene	U	4.2									
Benzo(a)anthracene	U	4.2									
Benzo(a)pyrene	U	4.2									
Benzo(b)fluoranthene	U	4.2									
Benzo(k)fluoranthene	U	4.2									
Chrysene	U	4.2									
Dibenzo(a,h)anthracene	U	4.2									
Fluoranthene	U	4.2									
Fluorene	U	4.2									
Indeno(1,2,3-cd)pyrene	U	4.2									
Naphthalene	U	4.2									
Pyrene	U	4.2									
Surr: 2-Fluorobiphenyl	595.8	0	666.6	0	89.4	20-140		0			
Surr: 4-Terphenyl-d14	525.5	0	666.6	0	78.8	22-172		0			
Surr: Nitrobenzene-d5	701	0	666.6	0	105	28-140		0			

LCS				Sample ID: SLCSS1-228716-228716			Units: µg/Kg		Analysis Date: 11/7/2023 04:49 PM		
Client ID:			Run ID: SVMS6_231107A			SeqNo: 10176764		Prep Date: 11/7/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	751.1	4.2	666.6	0	113	40-140	0				
2-Methylnaphthalene	800.7	4.2	666.6	0	120	40-140	0				
Acenaphthene	792.5	4.2	666.6	0	119	40-140	0				
Anthracene	804.1	4.2	666.6	0	121	40-140	0				
Benzo(a)anthracene	710.7	4.2	666.6	0	107	40-140	0				
Benzo(a)pyrene	727	4.2	666.6	0	109	40-140	0				
Benzo(b)fluoranthene	648.1	4.2	666.6	0	97.2	40-140	0				
Benzo(k)fluoranthene	672.7	4.2	666.6	0	101	40-140	0				
Chrysene	769.2	4.2	666.6	0	115	40-140	0				
Dibenzo(a,h)anthracene	683.9	4.2	666.6	0	103	40-140	0				
Fluoranthene	789.3	4.2	666.6	0	118	40-140	0				
Fluorene	746	4.2	666.6	0	112	40-140	0				
Indeno(1,2,3-cd)pyrene	685.7	4.2	666.6	0	103	40-140	0				
Naphthalene	807.4	4.2	666.6	0	121	40-140	0				
Pyrene	731.6	4.2	666.6	0	110	40-140	0				
Surr: 2-Fluorobiphenyl	586.7	0	666.6	0	88	20-140	0				
Surr: 4-Terphenyl-d14	544.3	0	666.6	0	81.6	22-172	0				
Surr: Nitrobenzene-d5	631.5	0	666.6	0	94.7	28-140	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228716** Instrument ID **SVMS6** Method: **SW8270E**

MS				Sample ID: 23102655-02A MS		Units: µg/Kg		Analysis Date: 11/7/2023 05:04 PM			
Client ID:			Run ID: SVMS6_231107A			SeqNo: 10176765		Prep Date: 11/7/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	756.5	4.1	660.4	0	115	40-140	0				
2-Methylnaphthalene	723.5	4.1	660.4	0	110	40-140	0				
Acenaphthene	794.2	4.1	660.4	0	120	40-140	0				
Anthracene	816.7	4.1	660.4	0	124	40-140	0				
Benzo(a)anthracene	729.9	4.1	660.4	0	111	40-140	0				
Benzo(a)pyrene	732.3	4.1	660.4	2.882	110	40-140	0				
Benzo(b)fluoranthene	648.4	4.1	660.4	2.85	97.7	40-140	0				
Benzo(k)fluoranthene	674.6	4.1	660.4	0	102	40-140	0				
Chrysene	797.3	4.1	660.4	0	121	40-140	0				
Dibenzo(a,h)anthracene	683.8	4.1	660.4	0	104	40-140	0				
Fluoranthene	786.6	4.1	660.4	3.319	119	40-140	0				
Fluorene	748.4	4.1	660.4	0	113	40-140	0				
Indeno(1,2,3-cd)pyrene	709.8	4.1	660.4	0	107	40-140	0				
Naphthalene	819.1	4.1	660.4	0	124	40-140	0				
Pyrene	726.7	4.1	660.4	3.076	110	40-140	0				
Surr: 2-Fluorobiphenyl	596.2	0	660.4	0	90.3	20-140	0				
Surr: 4-Terphenyl-d14	537.2	0	660.4	0	81.3	22-172	0				
Surr: Nitrobenzene-d5	647.1	0	660.4	0	98	28-140	0				

MSD					Sample ID: 23102655-02A MSD		Units: µg/Kg		Analysis Date: 11/7/2023 05:20 PM		
Client ID:			Run ID: SVMS6_231107A			SeqNo: 10176766		Prep Date: 11/7/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	744.3	4.1	659.6	0	113	40-140	756.5	1.62	30		
2-Methylnaphthalene	768.3	4.1	659.6	0	116	40-140	723.5	6.01	30		
Acenaphthene	796	4.1	659.6	0	121	40-140	794.2	0.219	30		
Anthracene	828.2	4.1	659.6	0	126	40-140	816.7	1.4	30		
Benzo(a)anthracene	734.2	4.1	659.6	0	111	40-140	729.9	0.587	30		
Benzo(a)pyrene	745	4.1	659.6	2.882	113	40-140	732.3	1.71	30		
Benzo(b)fluoranthene	652.1	4.1	659.6	2.85	98.4	40-140	648.4	0.569	30		
Benzo(k)fluoranthene	695.4	4.1	659.6	0	105	40-140	674.6	3.05	30		
Chrysene	804.3	4.1	659.6	0	122	40-140	797.3	0.876	30		
Dibenzo(a,h)anthracene	689.9	4.1	659.6	0	105	40-140	683.8	0.897	30		
Fluoranthene	790.5	4.1	659.6	3.319	119	40-140	786.6	0.49	30		
Fluorene	764.1	4.1	659.6	0	116	40-140	748.4	2.07	30		
Indeno(1,2,3-cd)pyrene	712.4	4.1	659.6	0	108	40-140	709.8	0.365	30		
Naphthalene	820.4	4.1	659.6	0	124	40-140	819.1	0.166	30		
Pyrene	790.2	4.1	659.6	3.076	119	40-140	726.7	8.37	30		
Surr: 2-Fluorobiphenyl	593.7	0	659.6	0	90	20-140	596.2	0.434	30		
Surr: 4-Terphenyl-d14	569.4	0	659.6	0	86.3	22-172	537.2	5.82	30		
Surr: Nitrobenzene-d5	644	0	659.6	0	97.6	28-140	647.1	0.474	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228716** Instrument ID **SVMS6** Method: **SW8270E**

The following samples were analyzed in this batch:

23102586-10A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
 Work Order: 23102586
 Project: Mauer Location

QC BATCH REPORT

Batch ID: **228326** Instrument ID **VMS10** Method: **SW8260D**

Sample ID: MBLK-228326-228326				Units: µg/Kg-dry			Analysis Date: 11/5/2023 01:02 PM			
Client ID:		Run ID: VMS10_231105A			SeqNo: 10168840		Prep Date: 10/31/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trimethylbenzene	U	30								
1,3,5-Trimethylbenzene	U	100								
Benzene	U	30								
Ethylbenzene	U	30								
m,p-Xylene	U	60								
o-Xylene	U	30								
Toluene	U	30								
Xylenes, Total	U	90								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1052</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>105</i>	<i>80-120</i>		<i>0</i>		
<i>Surr: 4-Bromofluorobenzene</i>	<i>939.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94</i>	<i>80-120</i>		<i>0</i>		
<i>Surr: Dibromofluoromethane</i>	<i>987</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.7</i>	<i>80-120</i>		<i>0</i>		
<i>Surr: Toluene-d8</i>	<i>988</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.8</i>	<i>80-120</i>		<i>0</i>		

LCS				Sample ID: LCS-228326-228326			Units: µg/Kg-dry		Analysis Date: 11/5/2023 12:10 PM		
Client ID:			Run ID: VMS10_231105A			SeqNo: 10168838		Prep Date: 10/31/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,2,4-Trimethylbenzene	1066	30	1000		0	107	64-126	0			
1,3,5-Trimethylbenzene	1093	100	1000		0	109	66-130	0			
Benzene	1042	30	1000		0	104	78-122	0			
Ethylbenzene	1026	30	1000		0	103	75-121	0			
m,p-Xylene	2094	60	2000		0	105	67-129	0			
o-Xylene	1074	30	1000		0	107	75-120	0			
Toluene	1031	30	1000		0	103	76-120	0			
Xylenes, Total	3168	90	3000		0	106	67-129	0			
Surr: 1,2-Dichloroethane-d4	1018	0	1000		0	102	80-120	0			
Surr: 4-Bromofluorobenzene	1001	0	1000		0	100	80-120	0			
Surr: Dibromofluoromethane	1062	0	1000		0	106	80-120	0			
Surr: Toluene-d8	971.5	0	1000		0	97.2	80-120	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228326** Instrument ID **VMS10** Method: **SW8260D**

MS				Sample ID: 23102586-07C MS			Units: µg/Kg-dry		Analysis Date: 11/5/2023 08:33 PM		
Client ID: SP 11			Run ID: VMS9_231105A			SeqNo: 10167456		Prep Date: 10/31/2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,2,4-Trimethylbenzene	898.1	29	970.9	20.39	90.4	64-126		0			
1,3,5-Trimethylbenzene	895.7	97	970.9	0	92.3	66-130		0			
Benzene	1050	29	970.9	0	108	78-122		0			
Ethylbenzene	974.8	29	970.9	0	100	75-121		0			
m,p-Xylene	1958	58	1942	0	101	67-129		0			
o-Xylene	967	29	970.9	0	99.6	75-120		0			
Toluene	956.9	29	970.9	0	98.5	76-120		0			
Xylenes, Total	2925	87	2913	0	100	67-129		0			
Surr: 1,2-Dichloroethane-d4	1036	0	970.9	0	107	80-120		0			
Surr: 4-Bromofluorobenzene	971.9	0	970.9	0	100	80-120		0			
Surr: Dibromofluoromethane	954.4	0	970.9	0	98.3	80-120		0			
Surr: Toluene-d8	956.9	0	970.9	0	98.5	80-120		0			

MSD					Sample ID: 23102586-07C MSD		Units: µg/Kg-dry		Analysis Date: 11/5/2023 08:49 PM	
Client ID: SP 11			Run ID: VMS9_231105A			SeqNo: 10167457		Prep Date: 10/31/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trimethylbenzene	937.4	29	970.9	20.39	94.5	64-126	898.1	4.28	30	
1,3,5-Trimethylbenzene	952.5	97	970.9	0	98.1	66-130	895.7	6.15	30	
Benzene	1120	29	970.9	0	115	78-122	1050	6.49	30	
Ethylbenzene	1050	29	970.9	0	108	75-121	974.8	7.39	30	
m,p-Xylene	2094	58	1942	0	108	67-129	1958	6.73	30	
o-Xylene	1049	29	970.9	0	108	75-120	967	8.09	30	
Toluene	1022	29	970.9	0	105	76-120	956.9	6.58	30	
Xylenes, Total	3143	87	2913	0	108	67-129	2925	7.18	30	
Surr: 1,2-Dichloroethane-d4	1054	0	970.9	0	109	80-120	1036	1.72	30	
Surr: 4-Bromofluorobenzene	983.1	0	970.9	0	101	80-120	971.9	1.14	30	
Surr: Dibromofluoromethane	954.4	0	970.9	0	98.3	80-120	954.4	0	30	
Surr: Toluene-d8	998.6	0	970.9	0	103	80-120	956.9	4.27	30	

The following samples were analyzed in this batch:

23102586-02C	23102586-07C	23102586-08C
23102586-11C		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
 Work Order: 23102586
 Project: Mauer Location

QC BATCH REPORT

Batch ID: **R387210b** Instrument ID **VMS8** Method: **SW8260D**

MBLK				Sample ID: 8V-BLKS1-231103-R387210b				Units: µg/Kg		Analysis Date: 11/3/2023 12:03 PM		
Client ID:			Run ID: VMS8_231103A			SeqNo: 10168261		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
1,2,4-Trimethylbenzene	U	5.0										
1,3,5-Trimethylbenzene	U	5.0										
Benzene	U	5.0										
Ethylbenzene	U	5.0										
m,p-Xylene	U	2.5										
o-Xylene	U	2.5										
Toluene	U	5.0										
Xylenes, Total	U	5.0										
Surr: 1,2-Dichloroethane-d4	19.78	0	20	0	98.9	83-132		0				
Surr: 4-Bromofluorobenzene	19.69	0	20	0	98.4	83-111		0				
Surr: Dibromofluoromethane	21.66	0	20	0	108	77-125		0				
Surr: Toluene-d8	19.87	0	20	0	99.4	86-108		0				

LCS					Sample ID: 8V-LCSS1-231103-R387210b		Units: µg/Kg		Analysis Date: 11/3/2023 11:27 AM		
Client ID:			Run ID: VMS8_231103A			SeqNo: 10168260		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,2,4-Trimethylbenzene	19.87	5.0	20	0	99.4	71-133	0				
1,3,5-Trimethylbenzene	20.38	5.0	20	0	102	71-139	0				
Benzene	20.13	5.0	20	0	101	77-133	0				
Ethylbenzene	20.68	5.0	20	0	103	75-133	0				
m,p-Xylene	40.14	2.5	40	0	100	75-134	0				
o-Xylene	19.67	2.5	20	0	98.4	76-130	0				
Toluene	19.84	5.0	20	0	99.2	76-130	0				
Xylenes, Total	59.81	5.0	60	0	99.7	75-132	0				
Surr: 1,2-Dichloroethane-d4	18.76	0	20	0	93.8	83-132	0				
Surr: 4-Bromofluorobenzene	18.98	0	20	0	94.9	83-111	0				
Surr: Dibromofluoromethane	20.8	0	20	0	104	77-125	0				
Surr: Toluene-d8	19.91	0	20	0	99.6	86-108	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
 Work Order: 23102586
 Project: Mauer Location

QC BATCH REPORT

Batch ID: **R387210b** Instrument ID **VMS8** Method: **SW8260D**

MS				Sample ID: 23102398-08C MS			Units: µg/Kg		Analysis Date: 11/3/2023 08:17 PM	
Client ID:		Run ID: VMS8_231103A			SeqNo: 10168283		Prep Date:		DF: 0.71	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trimethylbenzene	12.4	3.6	14.2	0	87.4	71-133	0			
1,3,5-Trimethylbenzene	13.12	3.6	14.2	0	92.4	71-139	0			
Benzene	12.84	3.6	14.2	0	90.4	77-133	0			
Ethylbenzene	13.01	3.6	14.2	0	91.6	75-133	0			
m,p-Xylene	25.95	1.8	28.4	0	91.4	75-134	0			
o-Xylene	13.14	1.8	14.2	0	92.5	76-130	0			
Toluene	12.43	3.6	14.2	0	87.6	76-130	0			
Xylenes, Total	39.09	3.6	42.6	0	91.8	75-132	0			
Surr: 1,2-Dichloroethane-d4	14.21	0	14.2	0	100	83-132	0			
Surr: 4-Bromofluorobenzene	13.98	0	14.2	0	98.4	83-111	0			
Surr: Dibromofluoromethane	14.84	0	14.2	0	104	77-125	0			
Surr: Toluene-d8	13.39	0	14.2	0	94.3	86-108	0			

MSD				Sample ID: 23102398-08C MSD			Units: µg/Kg		Analysis Date: 11/3/2023 08:36 PM	
Client ID:		Run ID: VMS8_231103A			SeqNo: 10168285		Prep Date:		DF: 0.816	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trimethylbenzene	15.16	4.1	16.32	0	92.9	71-133	12.4	20	30	
1,3,5-Trimethylbenzene	16.16	4.1	16.32	0	99	71-139	13.12	20.7	30	
Benzene	15.76	4.1	16.32	0	96.6	77-133	12.84	20.4	30	
Ethylbenzene	15.59	4.1	16.32	0	95.5	75-133	13.01	18	30	
m,p-Xylene	31.43	2.0	32.64	0	96.3	75-134	25.95	19.1	30	
o-Xylene	15.01	2.0	16.32	0	91.9	76-130	13.14	13.3	30	
Toluene	17.36	4.1	16.32	0	106	76-130	12.43	33.1	30	R
Xylenes, Total	46.44	4.1	48.96	0	94.8	75-132	39.09	17.2	30	
Surr: 1,2-Dichloroethane-d4	18.07	0	16.32	0	111	83-132	14.21	23.9	30	
Surr: 4-Bromofluorobenzene	16.43	0	16.32	0	101	83-111	13.98	16.1	30	
Surr: Dibromofluoromethane	16.48	0	16.32	0	101	77-125	14.84	10.4	30	
Surr: Toluene-d8	18.01	0	16.32	0	110	86-108	13.39	29.4	30	S

The following samples were analyzed in this batch:

23102586-01C	23102586-03C	23102586-04C
23102586-05C	23102586-06C	23102586-07C
23102586-08C	23102586-09C	23102586-10C
23102586-12C		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228202** Instrument ID **SPEC-04** Method: **SW7196A**

MBLK		Sample ID: MBLK-228202-228202				Units: mg/Kg		Analysis Date: 11/3/2023 01:22 PM		
Client ID:		Run ID: SPEC-04_231103B				SeqNo: 10163025		Prep Date: 10/29/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent U 1.0

LCS		Sample ID: LCS-228202-228202				Units: mg/Kg		Analysis Date: 11/3/2023 01:22 PM		
Client ID:		Run ID: SPEC-04_231103B				SeqNo: 10163026		Prep Date: 10/29/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.208 0.99 4.95 0 85 80-120 0

MS		Sample ID: 23102584-03A MS				Units: mg/Kg		Analysis Date: 11/3/2023 01:22 PM		
Client ID:		Run ID: SPEC-04_231103B				SeqNo: 10163030		Prep Date: 10/29/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent U 0.98 4.902 0.4118 -8.4 75-125 0 S

MS		Sample ID: 23102584-03A MSI				Units: mg/Kg		Analysis Date: 11/3/2023 01:22 PM		
Client ID:		Run ID: SPEC-04_231103B				SeqNo: 10163032		Prep Date: 10/29/2023		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1715 97 2218 0.4118 77.3 75-125 0

MS		Sample ID: 23102586-10A MS				Units: mg/Kg		Analysis Date: 11/3/2023 01:22 PM		
Client ID: SP 14 8'		Run ID: SPEC-04_231103B				SeqNo: 10163045		Prep Date: 10/29/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.562 0.95 4.762 0.1524 71.6 75-125 0 S

MS		Sample ID: 23102586-10A MSI				Units: mg/Kg		Analysis Date: 11/3/2023 01:22 PM		
Client ID: SP 14 8'		Run ID: SPEC-04_231103B				SeqNo: 10163047		Prep Date: 10/29/2023		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1835 94 2322 0.1524 79 75-125 0

MSD		Sample ID: 23102584-03A MSD				Units: mg/Kg		Analysis Date: 11/3/2023 01:22 PM		
Client ID:		Run ID: SPEC-04_231103B				SeqNo: 10163031		Prep Date: 10/29/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent U 0.97 4.854 0.4118 -8.48 75-125 0.2843 0 20 S

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: 228202 Instrument ID SPEC-04 Method: SW7196A

MSD		Sample ID: 23102586-10A MSD				Units: mg/Kg		Analysis Date: 11/3/2023 01:22 PM		
Client ID: SP 14 8'		Run ID: SPEC-04_231103B				SeqNo: 10163046		Prep Date: 10/29/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	3.505	0.97	4.854	0.1524	69.1	75-125	3.562	1.61	20	S

The following samples were analyzed in this batch:	23102586-01A	23102586-02A	23102586-03A
	23102586-04A	23102586-05A	23102586-06A
	23102586-07A	23102586-08A	23102586-09A
	23102586-10A	23102586-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228578** Instrument ID **WETCHEM** Method: **USDA Method 20**

DUP		Sample ID: 23102585-09ADUP				Units: s.u.		Analysis Date: 11/4/2023 12:00 PM		
Client ID:		Run ID: WETCHEM_231104C				SeqNo: 10165640		Prep Date: 11/3/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH @ Saturation	7.28	0.10	0	0	0	0-0	7.28	0	20	

DUP		Sample ID: 23102585-09ADUP				Units: mmhos/cm @25°		Analysis Date: 11/4/2023 02:10 PM		
Client ID:		Run ID: WETCHEM_231104D				SeqNo: 10165728		Prep Date: 11/3/2023		DF: 20
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	6.162	0.10	0	0	0		5.6	9.56	50	

The following samples were analyzed in this batch:

23102586-01A	23102586-02A	23102586-03A
23102586-04A	23102586-05A	23102586-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **228580** Instrument ID **WETCHEM** Method: **USDA Method 20**

DUP		Sample ID: 23102586-11ADUP				Units: s.u.		Analysis Date: 11/4/2023 10:31 AM		
Client ID: Duplicate A		Run ID: WETCHEM_231104A				SeqNo: 10165445		Prep Date: 11/3/2023		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH @ Saturation	6.99	0.10	0	0	0	0-0	7.17	2.54	20	

DUP		Sample ID: 23102586-11ADUP				Units: mmhos/cm @25°		Analysis Date: 11/4/2023 11:30 AM		
Client ID: Duplicate A		Run ID: WETCHEM_231104B				SeqNo: 10165618		Prep Date: 11/3/2023		DF: 20
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.6792	0.10	0	0	0		0.9046	28.5	50	

The following samples were analyzed in this batch:

23102586-07A	23102586-08A	23102586-09A
23102586-10A	23102586-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Mull Drilling Company
Work Order: 23102586
Project: Mauer Location

QC BATCH REPORT

Batch ID: **R387002** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R387002				Units: % of sample		Analysis Date: 10/31/2023 01:22 PM		
Client ID:		Run ID: MOIST_231031B				SeqNo: 10152666		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.10								

LCS		Sample ID: LCS-R387002				Units: % of sample		Analysis Date: 10/31/2023 01:22 PM		
Client ID:		Run ID: MOIST_231031B				SeqNo: 10152665		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	98-102	0			

DUP		Sample ID: 23102585-13B DUP				Units: % of sample		Analysis Date: 10/31/2023 01:22 PM		
Client ID:		Run ID: MOIST_231031B				SeqNo: 10152645		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.48	0.10	0	0	0	0-0	6.65	2.59	10	

DUP		Sample ID: 23102586-03B DUP				Units: % of sample		Analysis Date: 10/31/2023 01:22 PM		
Client ID: SP 7		Run ID: MOIST_231031B				SeqNo: 10152650		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	2.89	0.10	0	0	0	0-0	2.74	5.33	10	

The following samples were analyzed in this batch:

23102586-01B	23102586-02B	23102586-03B
23102586-04B	23102586-05B	23102586-06B
23102586-07B	23102586-08B	23102586-09B
23102586-10B	23102586-11B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Chain of Custody Form

ALS Group USA, Corp

Work Order

Company Name	Mull Drilling Company	Purchase Order		Parameter/Method Request for Analysis	
Send Report To	James Beilman	Company Name	Mull Drilling Company	A	Table 915-1
Project Name		Invoice Attn	Accounts Payable	B	
Address	1700 N Waterfront Pkwy, Bld. 1200	Project #	Mauer Location	C	
City/State/Zip	Wichita, KS 67206	Address	1700 N Waterfront Pkwy, Bld. 1200	D	
Phone	3162646366	City/State/Zip	Wichita, KS 67206	E	
e-Mail Address		Phone	3162646366	F	
		e-Mail Address		G	
				H	
				I	
				J	

#	Sample Description	Date	Time	Matrix	Preservative	# Bottles	A	B	C	D	Sample Notes
1	SP 3 4'	10/24/23	1150	Soil	Various	5	✓				
2	SP 4 4'	10/24/23	1200	Soil	Various		✓				
3	SP 7	10/24/23	1100	Soil	Various	5	✓				
4	SP 8	10/24/23	1105	Soil	Various	5	✓				
5	SP 9	10/24/23	1110	Soil	Various	5	✓				
6	SP 10	10/24/23	1120	Soil	Various	5	✓				
7	SP 11	10/24/23	1125	Soil	Various	5	✓				
8	SP 12	10/24/23	1140	Soil	Various	5	✓				
9	SP 13	10/24/23	1145	Soil	Various	5	✓				
10	SP 14 8'	10/24/23	1300	Soil	Various	5	✓				

Notes: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.						Required Turnaround Time:		Results Due:		
Preservative Key: 1-HCL, 2-HNO3, 3-H2SO4, 4-NaOH, 5-Na2S2O3, 6-NaHSO4, 7-Other, 8-4 degrees C, 9-5035.						<input checked="" type="checkbox"/> Std 10 Wk days <input type="checkbox"/> 5 Wk days <input type="checkbox"/> 2 Wk days <input type="checkbox"/> 24 hr				
Relinquished by	Date	Time	Received by	Date	Time	NOTES: 4.4°C OF2				
James Beilman	10/26/23	1730	Fedex							
Fedex	10/28/23	915	James Beilman	10/28/23	915					
						QC Reporting Level: (check box below)				
						Level II: Standard QC		Other:		
						Level III: Std QC + Raw data				
						Level IV: SW846 CLP-Like				



Chain of Custody Form

ALS Group USA, Corp

Work Order

Company Name	Mull Drilling Company	Purchase Order		Parameter/Method Request for Analysis	
Send Report To	James Beilman	Company Name	Mull Drilling Company	A	Table 915-1
Project Name		Invoice Attn	Accounts Payable	B	
Address	1700 N Waterfront Pkwy, Bld. 1200	Project #	Mauer Location	C	
City State Zip	Wichita, KS 67206	Address	1700 N Waterfront Pkwy, Bld. 1200	D	
Phone	3162646366	City State Zip	Wichita, KS 67206	E	
e-Mail Address		Phone	3162646366	F	
		e-Mail Address		G	
				H	
				I	
				J	

#	Sample Description	Date	Time	Matrix	Preservative	# Bottles	A	B	C	D	E	F	G	H	I	J	Notes
1	Duplicate A	10/24/23	~	Soil	Varue	5	✓										
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Notes: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.						Required Turnaround Time:		Results Due:	
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035						Std 10 Wk days 5 Wk days 2 Wk days 24 hr			
Relinquished by:	Date	Time	Received by:	Date	Time	NOTES:			
James Beilman	10/26/23	1730	Feder			4.4°C OF2			
Feder	10/28/23	915	HLAWA	10/28/23	915	QC Reporting Level: (check box below)			
						Level II: Standard QC		Other:	
						Level III: Std QC + Raw data			
						Level IV: SW846 CLP-Like			

Sample Receipt Checklist

Client Name: **MULLDRILLING**

Date/Time Received: **28-Oct-23 09:15**

Work Order: **23102586**

Received by: **WSK**

Checklist completed by **Weston Kotecki**

28-Oct-23

Reviewed by: **Chad Whelton**

31-Oct-23

eSignature

Date

eSignature

Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

Not Present ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

Sample(s) received on ice?

Yes ☒

No ☐

Temperature(s)/Thermometer(s):

4.4/4.4C

DF2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

10/28/2023 1:58:39 PM

Water - VOA vials have zero headspace?

Yes ☒

No ☐

No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

pH adjusted?

Yes ☐

No ☐

N/A ☒

pH adjusted by:

-

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: