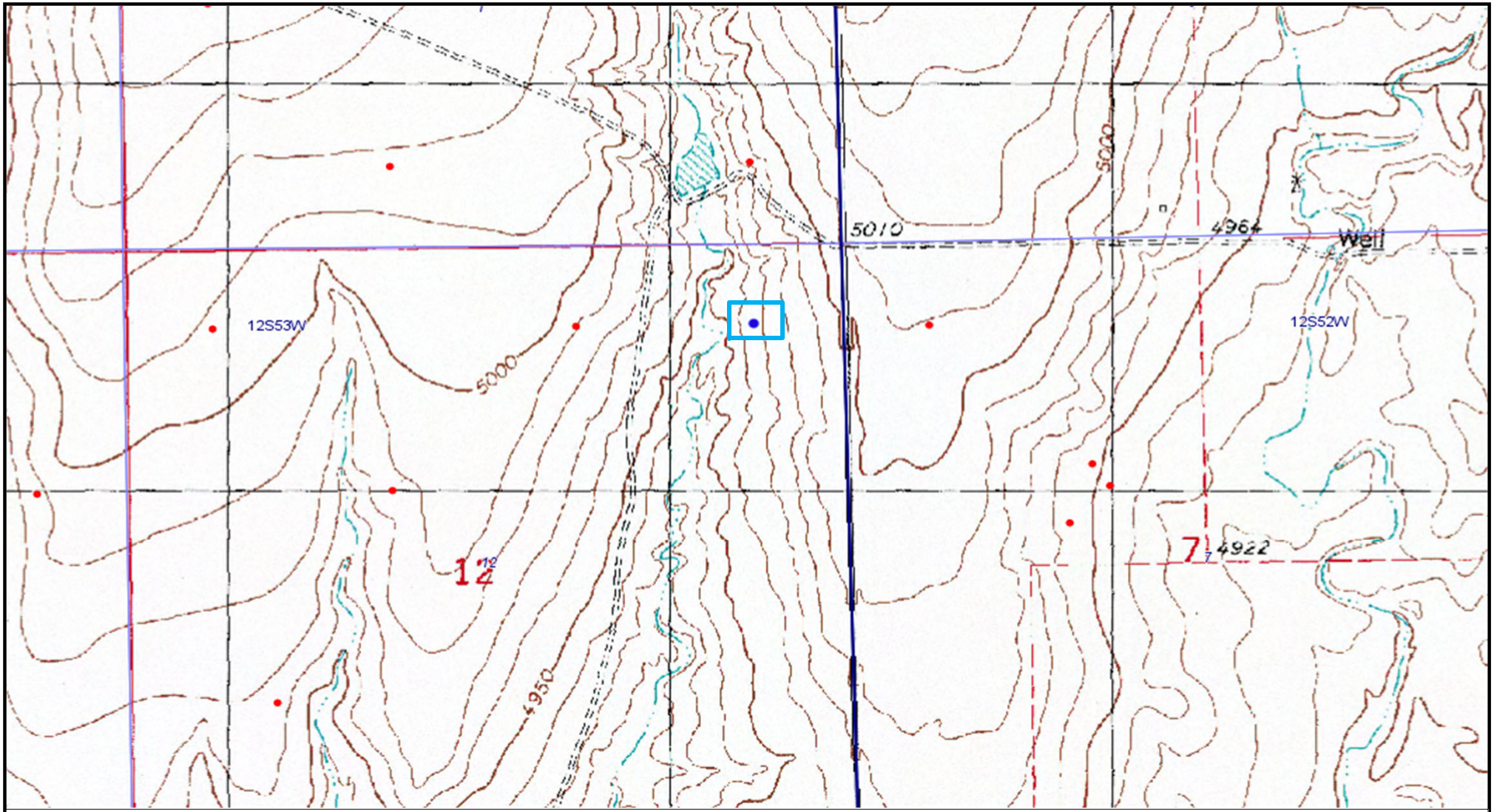
FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Soil Sample Location Map



MULL DRILLING COMPANY, INC.
MAUER 1-SWD
API 05-073-06010
NENE S12, T12S R53W, LINCOLN COUNTY
TOPOGRAPHIC MAP

Legend

Location Boundary

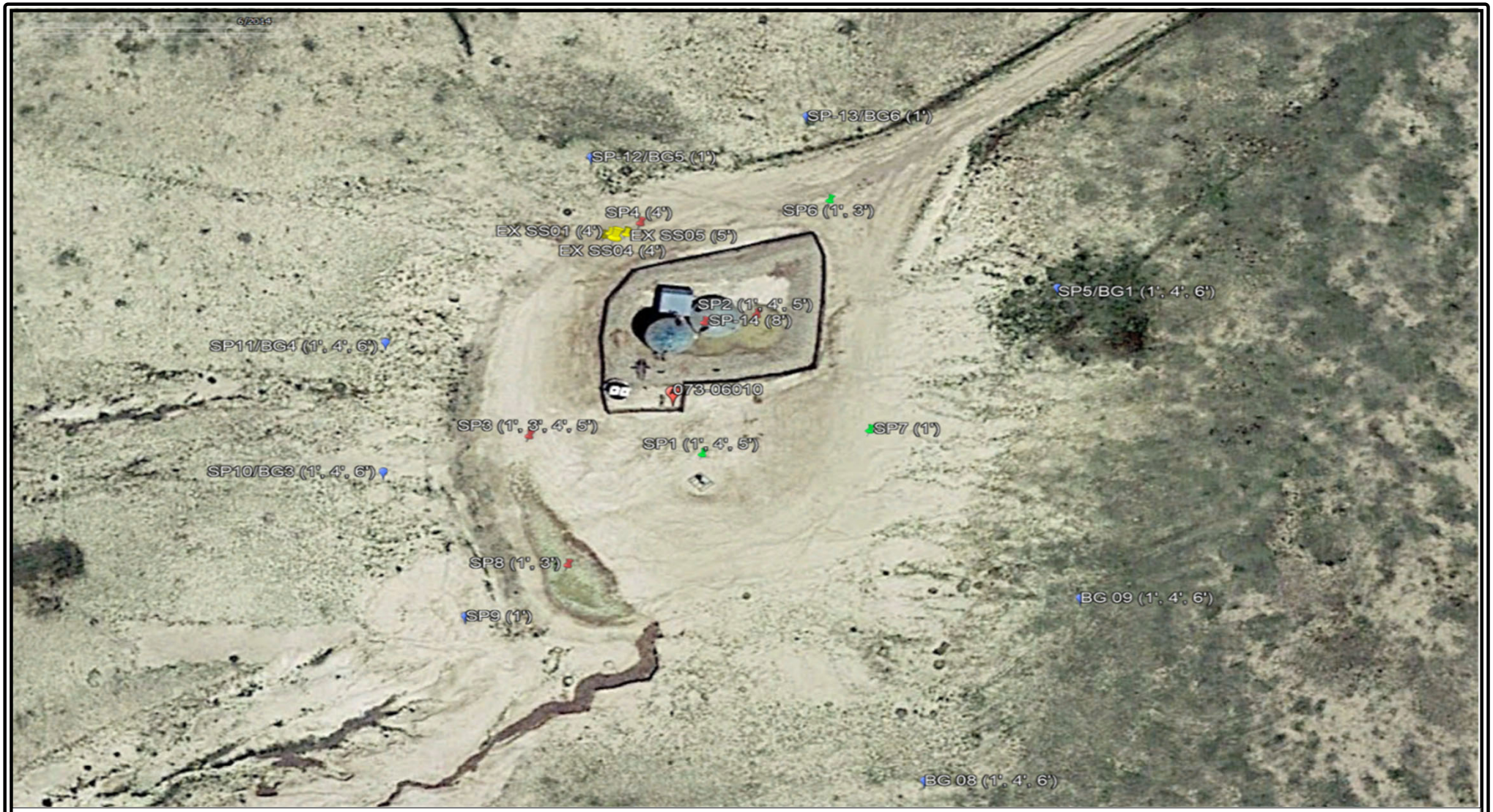
N

0 ft 350 ft 700 ft

ARDOR

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 and 2024 SOIL SAMPLE LOCATIONS

Legend
- Background Samples
- In-Situ Contaminated Samples
- In-Situ In Compliance Samples
- Excavation Samples

N

0 ft 50 ft 100 ft

ARDOR

Prepared By:
Ardor Environmental LLC

July 1, 2024

TABLES

Table 1: 2022 Analytical Tables

Table 2: 2023 Analytical Tables

Table 915-1 Mauer Results			12/1/2022						10/24/2023							3/26/2024								4/4/2024					5/29/2024									BG		
CLEANUP CONCENTRATIONS			SP1	SP1	SP2	SP2	SP3	SP4 - 2022	SP5/SG1	SP6	SP3	SP4 - 2023	SP7	SP8	SP9/SG2	SP10/SG3	SP11/SG4	SP12/SG5	SP13/SG6	SP14	SP1	SP2	SP3	SP6	SP14	SP8	SP5/SG1	SP5/SG1	SP18/SG3	SP18/SG3	SP19/SG4	SP11/SG4	EX SS01	EX SS02	EX SS03	EX SS04	EX SS05	EX SS01	EX SS02	EX SS03	EX SS04	EX SS05	BG07	BG07	BG07	BG08	BG08	BG08	BG09	BG09	BG09			
Contaminant of Concern	**Concentrations**	**Depth Below Ground Surface Location**	39.027733, -103.277594		39.021999, -103.277524		39.027740, -103.277355	39.021994, -103.277257	39.022322, -103.276943	39.022022, -103.276940	39.027740, -103.277355	39.022999, -103.277199	39.027765, -103.276912	39.021998, -103.277244	39.021994, -103.277244	39.021799, -103.277480	39.021675, -103.277441	39.022322, -103.276943	39.022394, -103.277222	39.022152, -103.276978	39.021992, -103.277096	39.027733, -103.277594	39.021999, -103.277524	39.027740, -103.277355	39.022022, -103.276940	39.021992, -103.277096	39.021675, -103.277441	39.021675, -103.277441	39.021799, -103.277480	39.021795, -103.277480	39.021675, -103.277441	39.021675, -103.277441	39.021997, -103.277355	39.021994, -103.277251	39.022397, -103.277106	39.021999, -103.2773	39.021997, -103.277199	39.027997, -103.277355	39.021994, -103.277251	39.021997, -103.277199	39.021988, -103.2772	39.022397, -103.277106	39.021744, -103.277353			39.027997, -103.277355			39.027997, -103.277199			39.027997, -103.277355					
Soil TPH (total volatile [C6-C10] and extractable [C10-C28] hydrocarbons)	500mg/kg		48.6	ND	41.5	ND	64.6	**556.6**	8.2J	5.2J	21	**2900**	31	73	18J	7.1J	6.5J	7.1J	18J	10J	ND	ND	ND

ATTACHMENT A

Laboratory Analytical Reports

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

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

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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

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Lenexa, KS 66219
(913)599-5665

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

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Lenexa, KS 66219
(913)599-5665

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
60416937002	**SP1 4'**	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
60416937003	**SP2**	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

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Lenexa, KS 66219
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SAMPLE ANALYTE COUNT

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

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
60416937004	**SP2 4'**	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
60416937006	**SP4**	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

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SAMPLE ANALYTE COUNT

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

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ABL	1	PAN
60416937007	**SP5**	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

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Lenexa, KS 66219
(913)599-5665

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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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

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	

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(913)599-5665

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	

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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	

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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	

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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	

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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	

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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	

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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	

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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			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

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

QC Batch: 1972178
QC Batch Method: HWS Boron
Analysis Method: 6010B-NE493 Ch 2
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
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
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
QC Batch Method: EPA 5035A/5030B
Analysis Method: EPA 8260C
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
QC Batch Method: EPA 3546
Analysis Method: EPA 8015B
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
QC Batch Method: EPA 3546
Analysis Method: EPA 8270 by SIM
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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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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QUALITY CONTROL DATA

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

QC Batch: 821376
QC Batch Method: ASTM D2974
Analysis 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
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: 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
QC Batch Method: 3060A
Analysis Method: EPA 7199
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 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
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

Parameter	Units	60416937003 Result	Spike Conc.	MS Result	MS % Rec	% 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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(913)599-5665

QUALITY CONTROL DATA

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

QC Batch: 1970169
QC Batch Method: 9045C/9045D
Analysis Method: EPA 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
QC Batch Method: 9045C/9045D
Analysis Method: EPA 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
QC Batch Method: 9050A
Analysis 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: 1971883
QC Batch Method: EPA 9050
Analysis 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
QC Batch Method: 9050A
Analysis 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	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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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.

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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

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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

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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

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Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sa	WO#: 60416937
	Revision: 2	Effective Date: 01/12

60416937

Client Name: Mull Drilling

Courier: 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** 0.3 / 0.5 **Corr. Factor** 0 **Corrected** 0.3 / 0.5

Date and initials of person examining contents: AC 12/2

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☒No ☐N/A	
Filtered volume received for dissolved tests?	☐Yes ☒No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: SL	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:**	☐Yes ☐No ☒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)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☒No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	
Samples from USDA Regulated Area: State: CO	☐Yes ☒No ☐N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☒No ☐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: _____

Qualtrax Document ID: 30468

Page 1 of 1

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 Required Client Information:		Section B Required Project Information:		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 Fax	Project Name:	~~REG~~ Mercer 415-1	Pace Project Manager:	heather.wilson@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	15622, 1

Regulatory Agency:

State / Location: CO

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): Rare Earth Elements*	VOAs/8260 PAH SIM	8015 Gro/Dro	6010/6020 Ni/Cl	Perm Ec sat'd	HW Burn 7194	Residual Chlorine (Y/N)	
1	SP2	SL	G	12/1	0900			60	4	X							1		✓	✓	✓	✓	✓		60416937
2	~~SP2 8'~~ SP2 4'				0915																				60416915
3	SP2				0920																				
4	~~SP2 4'~~ ~~SP2 8'~~ SP2 4'				0935																				60416915
5	SP3				0945																				
6	SP4				0930																				
7	SP5				0850																				
8	SP6				0910					✓							✓								
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*IR20 - Lathanum, Cerium, Praeseodymium, Holmium, Thulium, Ytterbium, Lutetium, Erbium, Gadolinium, Samarium, Europium, Lithium.	James Beilman	12/2/	1055	Pace	12/2	1057	0.3	Y	Y	Y
							0.5			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: James Beilman

SIGNATURE of SAMPLER: James Beilman DATE Signed: 12/1/22

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1	SL															2	2															
2	↓															↓	↓															
3																																
4																																
5																																
6																																
7	↓																															
8	SL															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	I	Wipe/Swab
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic	ZPLC	Ziploc Bag
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide	BP1U	1L unpreserved plastic	AF	Air Filter
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2C	500mL NAOH plastic	R	Terracore Kit
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic	U	Summa Can
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass	BP2S	500mL H2SO4 plastic		
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic		
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Acetate	Matrix	
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3C	250mL NaOH plastic		
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered	WT	Water
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic	NAL	Non-aqueous Liquid
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic	OL	OIL
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate	WP	Wipe
				BP4U	125mL unpreserved plastic	DW	Drinking Water
				BP4N	125mL HNO3 plastic		
				BP4S	125mL H2SO4 plastic		
				WPDU	16oz unpresserved plstic		

Work Order Number: 60416937 60416915

D111

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: CO
Cert. Needed: ☐ Yes ☒ No
Owner Received Date: 12/2/2022 Results Requested By: 12/19/2022

Workorder: 60416937 **Workorder Name:** MAUER 915-1

Report To	Subcontract To
Heather Wilson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 1(913)563-1407	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						Requested Analysis: 7199 CrIV	Hot Water Boron	Saturated Paste EC, SAR, pH									LAB USE ONLY
1	SP1	PS	12/1/2022 09:00	60416937001	Solid	1						X	X	X									L1564193 -01
2	SP1 4'	PS	12/1/2022 09:15	60416937002	Solid	1						X	X	X									-02
3	SP2	PS	12/1/2022 09:20	60416937003	Solid	1						X	X	X									-03
4	SP2 4'	PS	12/1/2022 09:35	60416937004	Solid	1						X	X	X									-04
5	SP3	PS	12/1/2022 09:45	60416937005	Solid	1						X	X	X									-05
6	SP4	PS	12/1/2022 09:30	60416937006	Solid	1						X	X	X									-06
7	SP5	PS	12/1/2022 08:50	60416937007	Solid	1						X	X	X									-07
8	SP6	PS	12/1/2022 09:10	60416937008	Solid	1						X	X	X									-08

Transfers	Released By	Date/Time	Received By	Date/Time
1	Wrapt Inc	12.5.22 1700		
2				
3			Kaycie	12-6-22 0900

Comments: OK

Cooler Temperature on Receipt 3.7 °C | **Custody Seal** ☒ or N | **Received on Ice** ☒ or N | **Samples Intact** ☒ or N

***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:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

MSA2
3.7+0=3.7

6091 0793 87

41564193

Pace Analytical®
www.pacelabs.com

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:	☐
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? 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 CrIV	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

ALS Group, USA

Date: 14-Nov-23

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

Work Order Sample Summary

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

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.

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

Qualifier	Description
*	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.

Acronym	Description
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

Units Reported	Description
% 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.

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		Analyst: **CLJ**
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		Analyst: **AXW**
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		Analyst: **CLJ**
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.

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.

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.

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		Analyst: **CLJ**
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		Analyst: **AXW**
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		Analyst: **CLJ**
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.

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		Analyst: **CLJ**
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		Analyst: **AXW**
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		Analyst: **CLJ**
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.

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.

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		Analyst: **CLJ**
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		Analyst: **AXW**
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		Analyst: **CLJ**
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.

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		Analyst: **CLJ**
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		Analyst: **AXW**
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		Analyst: **CLJ**
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.

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.

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		Analyst: **CLJ**
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		Analyst: **AXW**
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		Analyst: **CLJ**
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.

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		Analyst: **CLJ**
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		Analyst: **AXW**
Chromium, Hexavalent	U		0.88	1.0	mg/Kg-dry	1	11/3/2023 13:22
MOISTURE		Method: **SW3550C**					Analyst: **SGH**
Moisture	**4.5**		**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		Analyst: **CLJ**
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.

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.

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		Analyst: **CLJ**
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		Analyst: **AXW**
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		Analyst: **CLJ**
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.

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		Analyst: **CLJ**
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		Analyst: **AXW**
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		Analyst: **CLJ**
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.

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.

ALS Group, USA

Date: 14-Nov-23

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
Surr: 4-Terphenyl-d14	*0.5*	0	*0.828*	0	*60.4*	*34-130*	0			

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			
Surr: 4-Terphenyl-d14	*0.5833*	0	*0.828*	0	*70.5*	*34-130*	0			

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			
Surr: 4-Terphenyl-d14	*0.5956*	0	*0.822*	0	*72.5*	*34-130*	0			

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	
Surr: 4-Terphenyl-d14	*0.5768*	0	*0.8188*	0	*70.5*	*34-130*	0.5956	*3.21*	*30*	

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: **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**

MBLK 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			
Surr: 2-Fluorobiphenyl	*335.9*	0	*646*	0	*52*	*20-140*	0			
Surr: 4-Terphenyl-d14	*321.9*	0	*646*	0	*49.8*	*22-172*	0			
Surr: Nitrobenzene-d5	*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	
Surr: 2-Fluorobiphenyl	*413.6*	0	*659.1*	0	*62.8*	*20-140*	335.9	*20.7*	*30*	
Surr: 4-Terphenyl-d14	*391.6*	0	*659.1*	0	*59.4*	*22-172*	321.9	*19.5*	*30*	
Surr: Nitrobenzene-d5	*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.

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**

MBLK 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								
Surr: 1,2-Dichloroethane-d4	*1052*	0	*1000*	0	*105*	*80-120*	0			
Surr: 4-Bromofluorobenzene	*939.5*	0	*1000*	0	*94*	*80-120*	0			
Surr: Dibromofluoromethane	*987*	0	*1000*	0	*98.7*	*80-120*	0			
Surr: Toluene-d8	*988*	0	*1000*	0	*98.8*	*80-120*	0			

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	
		Company Name	Mull Drilling Company	A	Table 705-1
Send Report To	James Beilman	Invoice Attn	Accounts Payable	B	
Project Name		Project #	Mauer Location	C	
Address	1700 N Waterfront Pkwy, Bld. 1200	Address	1700 N Waterfront Pkwy, Bld. 1200	D	
				E	
				F	
City State Zip	Wichita, KS 67206	City State Zip	Wichita, KS 67206	G	
Phone	3162646366	Phone	3162646366	H	
e-Mail Address		e-Mail Address		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.

Preservative Key: 1-HCL, 2-HNO3, 3-H2SO4, 4-NaOH, 5-Na2S2O3, 6-NaHSO4, 7-Other, 8-4 degrees C, 9-5035.

Required Turnaround Time: X Std 10 Wk days ___ 5 Wk days ___ 2 Wk days ___ 24 hr

Results Due:

Relinquished by	Date	Time	Received by	Date	Time
James Beilman	10/26/23	1730	Fedex		
Fedex	10/28/23	915	[signature]	10/28/23	915

NOTES: 4.4°C 0F2

QC Reporting Level: (check box below)

- Level II: Standard QC
- Level III: Std QC + Raw data
- Level IV: SW846 CLP-Like
- Other:

ALS Group USA, Corp | 3352 128th Ave | | Holland Michigan 49424 | TEL. (616) 399-6070

Chain of Custody Form

ALS Group USA, Corp

Work Order: _____

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

#	Sample Description	Date	Time	Matrix	Preservative	# Bottles	A	B	C	D	E	F	...	...tes
1	Duplicate A	10/24/23	~	Soil	Various	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.

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Required Turnaround Time: X Std 10 Wk days ___ 5 Wk days ___ 2 Wk days ___ 24 hr

Results Due:

Relinquished by	Date	Time	Received by	Date	Time
James Beilman	10/26/23	1730	Fedex		
FedEx	10/28/23	915	[illegible]	10/28/23	915

NOTES: 4.4°C OF2

QC Reporting Level: (check box below)

- Level II: Standard QC
- Level III: Std QC + Raw data
- Level IV: SW846 CLP-Like
- Other:

ALS Group USA, Corp | 3352 128th Ave | | Holland Michigan 49424 | TEL. (616) 399-6070

ALS Group, USA
Holland, Michigan

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 (eSignature) 28-Oct-23 (Date) Reviewed by: Chad Whelton (eSignature) 31-Oct-23 (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:

ORIGINS LABORATORY, INC

April 11, 2024

Mull Drilling
Kendall Pelton
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Project Name - Mauer SWD#1 **Project Number - [none]**

Attached are your analytical results for Mauer SWD#1 received by Origins Laboratory, Inc. March 29, 2024. This project is associated with Origins project number Y403867-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com

THE NELAC INSTITUTE

ACCREDITED
TESTING CERT # 3494.01

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP 1 5'	Y403867-01	Soil	March 26, 2024 11:55	03/29/2024 16:41
SP 2 5'	Y403867-02	Soil	March 26, 2024 12:00	03/29/2024 16:41
SP 3 5'	Y403867-03	Soil	March 26, 2024 12:30	03/29/2024 16:41
SP 6 3'	Y403867-04	Soil	March 26, 2024 13:00	03/29/2024 16:41
SP 14 9'	Y403867-05	Soil	March 26, 2024 9:10	03/29/2024 16:41
SP 8 3'	Y403867-06	Soil	March 26, 2024 13:15	03/29/2024 16:41
SP 5 4'	Y403867-07	Soil	March 26, 2024 10:45	03/29/2024 16:41
SP 5 6'	Y403867-08	Soil	March 26, 2024 10:50	03/29/2024 16:41
SP 11 4'	Y403867-09	Soil	March 26, 2024 10:30	03/29/2024 16:41
SP 11 6'	Y403867-10	Soil	March 26, 2024 10:35	03/29/2024 16:41
SP 10 4'	Y403867-11	Soil	March 26, 2024 11:05	03/29/2024 16:41
SP 10 6'	Y403867-12	Soil	March 26, 2024 1:10	03/29/2024 16:41

Origins Laboratory, Inc.

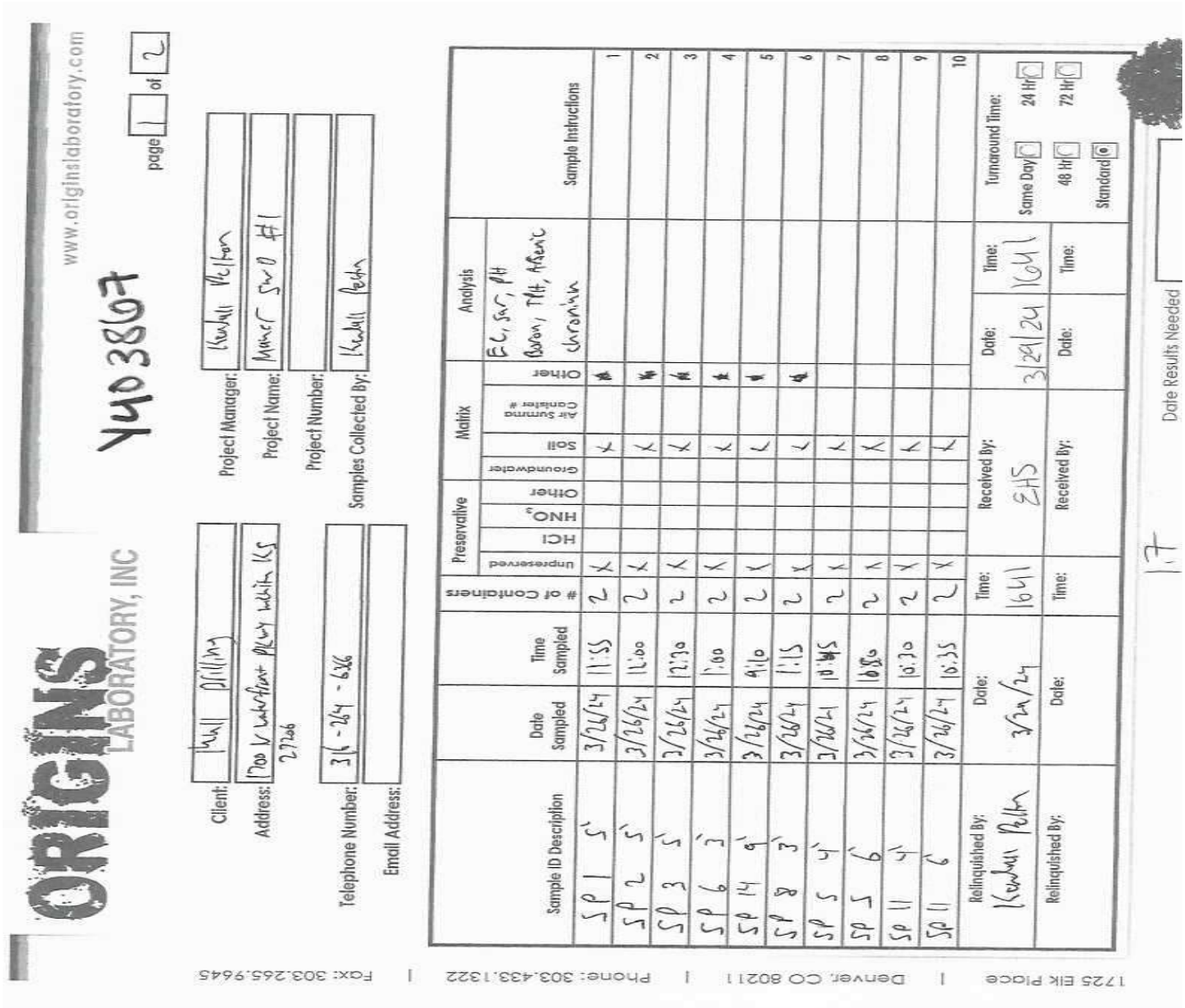
The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1



Origins Laboratory, Inc.

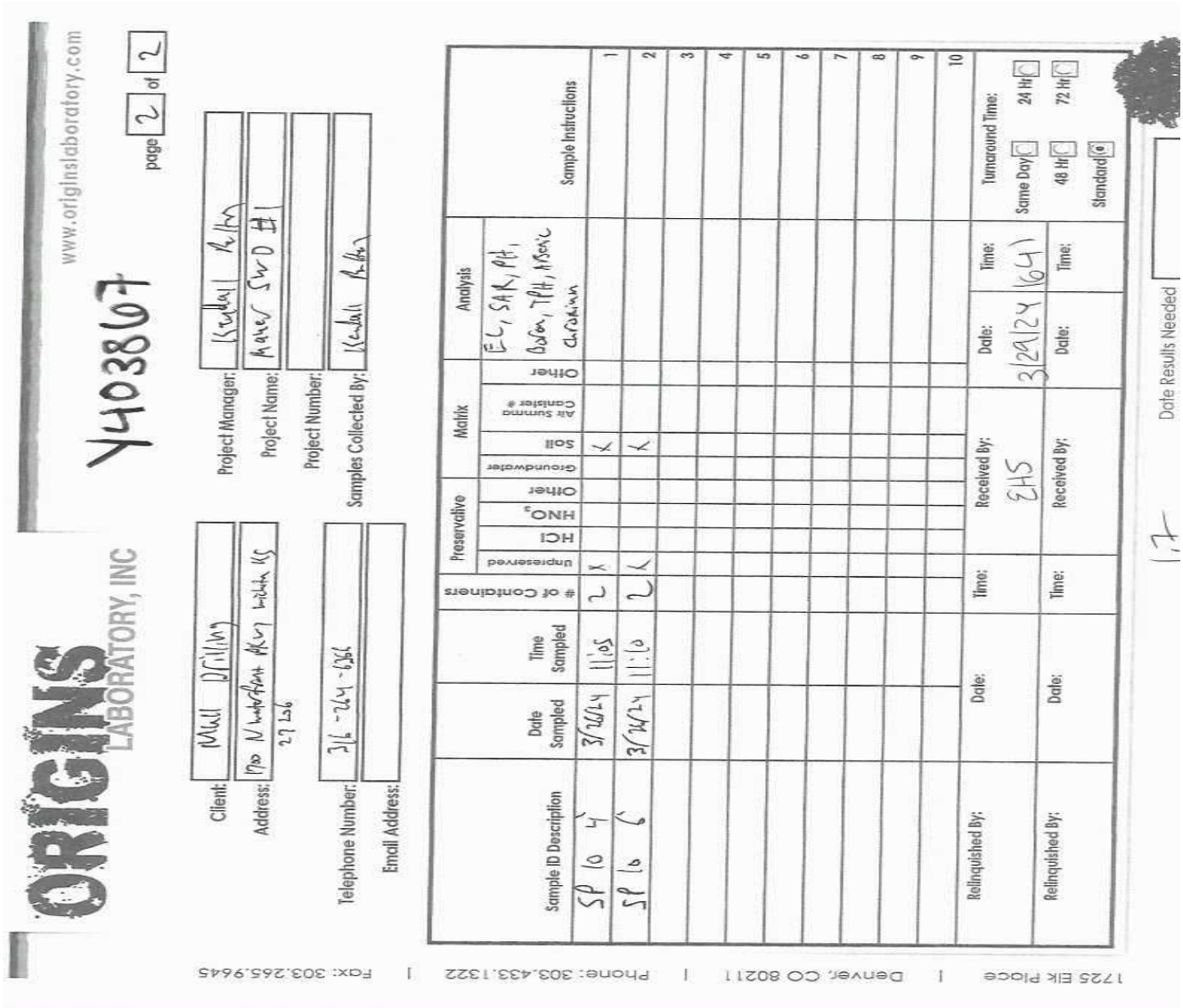
The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1



Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 4038607

Client: Mull Drilling

Client Project ID: Mauer SWD 1

Checklist Completed by: EHS

Shipped Via: HD (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 3/29/24

Airbill #: N/A

Matrix(s) Received: (Check all that apply): X Soil/Solid ____ Water ____ Other: ____

Cooler Number/Temperature: 1 / 1.7 °C ____ / ____ °C ____ / ____ °C ____ / ____ °C (Describe)

Thermometer ID: T004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C[1]?	✓			
Is there ice present (document if blue ice is used)	✓			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact[1]?	✓			
Was adequate sample volume provided[1]?	✓			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?		✓		
Is a chain-of-custody (COC) present and filled out completely[1]?		✓		No sample times
Does the COC agree with the number and type of sample bottles received[1]?		✓		
Do the sample IDs on the bottle labels match the COC[1]?	✓			
Is the COC properly relinquished by the client with date and time recorded[1]?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**			✓	
Are samples preserved that require preservation and was it checked[1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*			✓	
Additional Comments (if any): New COC's recieved by email on 4/1				

[1] *If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.*

Reviewed by: JB (Project Manager) 4/2/24 Date/Time Reviewed

Origins Laboratory, Inc.

Jordan A. Bynon For Jen Pellegrini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 1 5'
3/26/2024 11:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-01 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**1.36**		0.0986	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*104 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.426	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*107 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*89.6 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.8 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**1.30**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	**1.31**		0.823	"	"	"	"	"	
Sodium	**15.7**		0.435	"	"	"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 1 5'
3/26/2024 11:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-01 (Soil)									
pH in Soil by 9045D									
pH	**8.47**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**13.7**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**1.88**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**8.64**		0.271	mg/kg	10	B4C2948	03/29/2024	04/05/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.186	0.464	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 2 5'
3/26/2024 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-02 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**3.86**		0.0987	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*101 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*115 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*87.8 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*96.1 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**0.822**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	**35.3**		0.435	"	"	"	"	"	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 2 5'
3/26/2024 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-02 (Soil)									
pH in Soil by 9045D									
pH	**8.50**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**43.8**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**3.97**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**8.12**		0.288	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.177	0.443	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 3 5'
3/26/2024 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-03 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**1.24**		0.0993	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*109 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*101 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*89.7 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*98.2 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**63.4**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	**30.5**		0.823	"	"	"	"	"	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 3 5'
3/26/2024 12:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-03 (Soil)									
Metals by Saturated Paste by EPA 6010									
Sodium	**161**		4.35	meq/L	100	[CALC]	04/05/2024	04/10/2024	
pH in Soil by 9045D									
pH	**7.54**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**23.5**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**16.1**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**12.7**		0.266	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.134	0.336	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 6 3'
3/26/2024 1:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y403867-04 (Soil)

Boron (DTPA Sorbitol)

Boron	**0.972**		0.101	mg/L	1	B4D0310	04/03/2024	04/04/2024	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*102 %*		*50-150*			"	"	"	

GBTEX+TMBs by 8260D

Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*108 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*89.1 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*96.2 %*		*70-130*			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	**2.88**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	**1.91**		0.823	"	"	"	"	"	
Sodium	**11.6**		0.435	"	"	"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 6 3'
3/26/2024 1:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-04 (Soil)									
pH in Soil by 9045D									
pH	**8.23**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**7.48**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**1.52**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**8.21**		0.256	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.176	0.439	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 14 9'
3/26/2024 9:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-05 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**3.37**		0.101	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*107 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*89.8 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.7 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**5.50**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	**1.35**		0.823	"	"	"	"	"	
Sodium	**125**		4.35	"	100	"	"	04/10/2024	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 14 9'
3/26/2024 9:10:00AM

Origins Laboratory, Inc.

Y403867-05 (Soil)

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
pH in Soil by 9045D									
pH	**8.09**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**67.4**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**11.5**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**7.93**		0.261	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.142	0.356	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 8 3'
3/26/2024 1:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-06 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**1.81**		0.102	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*98.0 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*112 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*89.0 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*97.2 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**0.611**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	**10.1**		0.435	"	"	"	"	"	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 8 3'
3/26/2024 1:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-06 (Soil)									
pH in Soil by 9045D									
pH	**8.61**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**15.2**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**1.21**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**7.06**		0.275	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.134	0.334	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 5 4'
3/26/2024 10:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y403867-07 (Soil)

Boron (DTPA Sorbitol)

Boron	**0.526**		0.100	mg/L	1	B4D0310	04/03/2024	04/04/2024	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*101 %*		*50-150*			"	"	"	

GBTEX+TMBs by 8260D

Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*90.3 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*97.8 %*		*70-130*			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	**0.668**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	**2.07**		0.435	"	"	"	"	"	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 5 4'
3/26/2024 10:45:00AM

Origins Laboratory, Inc.

Y403867-07 (Soil)

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
pH in Soil by 9045D									
pH	**8.50**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**2.78**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**0.311**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**8.70**		0.259	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.169	0.422	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 5 6'
3/26/2024 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-08 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.814**		0.100	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*97.8 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*119 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*90.9 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*96.0 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**5.89**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	**5.35**		0.823	"	"	"	"	"	
Sodium	**13.7**		0.435	"	"	"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 5 6'
3/26/2024 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-08 (Soil)									
pH in Soil by 9045D									
pH	**8.24**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**5.79**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**2.17**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**8.29**		0.264	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	**0.180**	**0.137**	0.343	mg/kg dry	1	2590643	04/03/2024	04/03/2024	J

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 11 4'
3/26/2024 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-09 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.423**		0.0989	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*109 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*91.4 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*96.4 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**5.35**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	**2.77**		0.823	"	"	"	"	"	
Sodium	**5.10**		0.435	"	"	"	"	"	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 11 4'
3/26/2024 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-09 (Soil)									
pH in Soil by 9045D									
pH	**8.20**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**2.53**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**1.24**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**9.53**		0.259	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.123	0.308	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 11 6'
3/26/2024 10:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-10 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.407**		0.0988	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*104 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*90.3 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*96.4 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**14.5**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	**28.6**		0.823	"	"	"	"	"	
Sodium	**96.4**		4.35	"	100	"	"	04/10/2024	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 11 6'
3/26/2024 10:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-10 (Soil)									
pH in Soil by 9045D									
pH	**8.04**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**20.8**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**10.3**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**7.89**		0.265	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.105	0.262	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 10 4'
3/26/2024 11:05:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-11 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.271**		0.0996	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*106 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*87.1 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*97.1 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**13.1**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	**8.58**		0.823	"	"	"	"	"	
Sodium	**36.3**		0.435	"	"	"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 10 4'
3/26/2024 11:05:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-11 (Soil)									
pH in Soil by 9045D									
pH	**7.96**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**11.0**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**5.44**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**7.61**		0.252	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.126	0.315	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 10 6'
3/26/2024 1:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-12 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**1.06**		0.102	mg/L	1	B4D0310	04/03/2024	04/04/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0219	04/02/2024	04/08/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*110 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4D0452	04/04/2024	04/06/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*107 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*88.7 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.8 %*		*70-130*			"	"	"	
Metals by Saturated Paste by EPA 6010									
Calcium	**3.57**		0.499	meq/L	10	[CALC]	04/05/2024	04/08/2024	
Magnesium	**2.45**		0.823	"	"	"	"	"	
Sodium	**3.90**		0.435	"	"	"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

SP 10 6'
3/26/2024 1:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y403867-12 (Soil)									
pH in Soil by 9045D									
pH	**8.26**			pH Units	1	B4D0517	04/05/2024	04/05/2024	
SAR by 20B Saturated Paste									
SAR	**2.25**		0.0100	SAR	1	B4D0502	04/05/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**1.09**		0.00500	mmhos/cm	1	B4D0517	04/05/2024	04/05/2024	
Table 915 metals by EPA 6020B									
Arsenic	**8.04**		0.249	mg/kg	10	B4D0228	04/02/2024	04/04/2024	
Total Metals by 7196A									
Hexavalent Chromium	ND	0.134	0.336	mg/kg dry	1	2590643	04/03/2024	04/03/2024	U

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0219 - EPA 3550B										
Blank (B4D0219-BLK1)					Prepared: 04/02/2024 Analyzed: 04/08/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	*28*		*"*	*24.9*		*113*	*50-150*			

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0219 - EPA 3550B										
LCS (B4D0219-BS1)					Prepared: 04/02/2024 Analyzed: 04/08/2024					
Diesel (C10-C28)	836	50.0	mg/kg	1000		83.6	70-130			
Residual Range Organics (C28-C40)	920	200	"	1000		92.0	70-130			
Surrogate: o-Terphenyl	*53*		*"*	*49.8*		*106*	*50-150*			

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0219 - EPA 3550B										
Matrix Spike (B4D0219-MS1)		**Source: Y403867-01**			Prepared: 04/02/2024 Analyzed: 04/08/2024					
Diesel (C10-C28)	859	50.0	mg/kg	1000	ND	85.9	70-130			
Residual Range Organics (C28-C40)	956	200	"	1000	ND	95.6	70-130			
Surrogate: o-Terphenyl	*51*		*"*	*49.8*		*102*	*50-150*			

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0219 - EPA 3550B										
Matrix Spike Dup (B4D0219-MSD1)		**Source: Y403867-01**			Prepared: 04/02/2024 Analyzed: 04/08/2024					
Diesel (C10-C28)	971	50.0	mg/kg	1000	ND	97.1	70-130	12.2	35	
Residual Range Organics (C28-C40)	1080	200	"	1000	ND	108	70-130	12.5	35	
Surrogate: o-Terphenyl	*55*		*"*	*49.8*		*110*	*50-150*			

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0452 - EPA 5030 (soil)										
Blank (B4D0452-BLK1)				Prepared: 04/04/2024 Analyzed: 04/06/2024						
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	*0.11*		"	*0.125*		*86.8*	*70-130*			
Surrogate: Toluene-d8	*0.12*		"	*0.125*		*93.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*95.8*	*70-130*			

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0452 - EPA 5030 (soil)										
LCS (B4D0452-BS1)					Prepared: 04/04/2024 Analyzed: 04/06/2024					
1,2,4-Trimethylbenzene	0.110	0.00200	mg/kg	0.100		110	70-130			
1,3,5-Trimethylbenzene	0.110	0.00200	"	0.100		110	70-130			
Benzene	0.0844	0.00200	"	0.100		84.4	70-130			
Ethylbenzene	0.101	0.00200	"	0.100		101	70-130			
Naphthalene	0.111	0.00380	"	0.100		111	70-130			
Toluene	0.0888	0.00200	"	0.100		88.8	70-130			
o-Xylene	0.105	0.00200	"	0.100		105	70-130			
m,p-Xylene	0.216	0.00400	"	0.200		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.11*		"	*0.125*		*87.8*	*70-130*			
Surrogate: Toluene-d8	*0.12*		"	*0.125*		*94.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*95.6*	*70-130*			

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0452 - EPA 5030 (soil)										
Matrix Spike (B4D0452-MS1)		**Source: Y403860-01**			Prepared: 04/04/2024 Analyzed: 04/06/2024					
1,2,4-Trimethylbenzene	0.0850	0.00200	mg/kg	0.100	ND	85.0	70-130			
1,3,5-Trimethylbenzene	0.0872	0.00200	"	0.100	ND	87.2	70-130			
Benzene	0.0797	0.00200	"	0.100	ND	79.7	70-130			
Ethylbenzene	0.0852	0.00200	"	0.100	ND	85.2	70-130			
Naphthalene	0.0558	0.00380	"	0.100	ND	55.8	70-130			QM-07
Toluene	0.0755	0.00200	"	0.100	ND	75.5	70-130			
o-Xylene	0.0778	0.00200	"	0.100	ND	77.8	70-130			
m,p-Xylene	0.176	0.00400	"	0.200	ND	88.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.10*		"	*0.125*		*82.5*	*70-130*			
Surrogate: Toluene-d8	*0.12*		"	*0.125*		*95.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*99.1*	*70-130*			

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0452 - EPA 5030 (soil)										
Matrix Spike Dup (B4D0452-MSD1)		**Source: Y403860-01**			Prepared: 04/04/2024 Analyzed: 04/06/2024					
1,2,4-Trimethylbenzene	0.0706	0.00200	mg/kg	0.100	ND	70.6	70-130	18.5	20	
1,3,5-Trimethylbenzene	0.0716	0.00200	"	0.100	ND	71.6	70-130	19.6	20	
Benzene	0.0750	0.00200	"	0.100	ND	75.0	70-130	6.15	20	
Ethylbenzene	0.0695	0.00200	"	0.100	ND	69.5	70-130	20.3	20	QM-07
Naphthalene	0.0596	0.00380	"	0.100	ND	59.6	70-130	6.55	20	QM-07
Toluene	0.0657	0.00200	"	0.100	ND	65.7	70-130	13.9	20	QM-07
o-Xylene	0.0644	0.00200	"	0.100	ND	64.4	70-130	18.9	20	QM-07
m,p-Xylene	0.144	0.00400	"	0.200	ND	72.2	70-130	20.0	20	
Surrogate: 1,2-Dichloroethane-d4	*0.12*		"	*0.125*		*94.4*	*70-130*			
Surrogate: Toluene-d8	*0.11*		"	*0.125*		*90.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*97.5*	*70-130*			

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4C2948 - EPA 3050B										
Blank (B4C2948-BLK1)					Prepared: 03/29/2024 Analyzed: 04/05/2024					
Arsenic	ND	0.290	mg/kg							
LCS (B4C2948-BS1)					Prepared: 03/29/2024 Analyzed: 04/05/2024					
Arsenic	5.47	0.290	mg/kg	5.00		109	80-120			
Matrix Spike (B4C2948-MS1)		**Source: Y403860-02**			Prepared: 03/29/2024 Analyzed: 04/08/2024					
Arsenic	8.23	0.273	mg/kg	4.70	2.41	124	75-125			
Matrix Spike Dup (B4C2948-MSD1)		**Source: Y403860-02**			Prepared: 03/29/2024 Analyzed: 04/08/2024					
Arsenic	7.90	0.255	mg/kg	4.39	2.41	125	75-125	4.10	20	
Batch B4D0228 - EPA 3050B										
Blank (B4D0228-BLK1)					Prepared: 04/02/2024 Analyzed: 04/04/2024					
Arsenic	ND	0.290	mg/kg							
LCS (B4D0228-BS1)					Prepared: 04/02/2024 Analyzed: 04/04/2024					
Arsenic	5.60	0.290	mg/kg	5.00		112	80-120			
Matrix Spike (B4D0228-MS1)		**Source: Y403867-03**			Prepared: 04/02/2024 Analyzed: 04/04/2024					
Arsenic	12.8	0.283	mg/kg	4.89	12.7	0.889	75-125			QM-07
Matrix Spike Dup (B4D0228-MSD1)		**Source: Y403867-03**			Prepared: 04/02/2024 Analyzed: 04/04/2024					
Arsenic	12.3	0.270	mg/kg	4.65	12.7	NR	75-125	3.81	20	QM-07

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0228 - EPA 3050B										

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0310 - DTPA Sorbitol Preparation										
Blank (B4D0310-BLK1)					Prepared: 04/03/2024 Analyzed: 04/04/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4D0310-DUP1)		**Source: Y403867-01**			Prepared: 04/03/2024 Analyzed: 04/04/2024					
Boron	1.38	0.101	mg/L		1.36			0.955	50	
Batch B4D0502 - Saturated Paste Metals										
Blank (B4D0502-BLK1)					Prepared: 04/05/2024 Analyzed: 04/08/2024					
SAR	ND	0.0100	SAR							
Calcium PPM	ND	10.0	mg/L							
Magnesium PPM	ND	10.0	"							
Sodium PPM	ND	10.0	"							
Duplicate (B4D0502-DUP1)		**Source: Y403867-01**			Prepared: 04/05/2024 Analyzed: 04/08/2024					
SAR	ND	0.0100	SAR		13.7				200	
Calcium PPM	17.7	10.0	mg/L		26.0			38.0	50	
Magnesium PPM	16.4	10.0	"		15.9			3.22	50	
Sodium PPM	363	10.0	"		361			0.506	50	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0517 - Saturated Paste pH/EC										
Blank (B4D0517-BLK1)					Prepared: 04/05/2024 Analyzed: 04/05/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4D0517-DUP1)		**Source: Y403867-01**			Prepared: 04/05/2024 Analyzed: 04/05/2024					
pH	8.40		pH Units		8.47			0.830	25	
Specific Conductance (EC)	1.91	0.00500	mmhos/cm		1.88			1.33	25	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Total Metals by 7196A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2590643 - SW846 3060A										
BLANK (1205691988-BLK)					Prepared: 04/03/2024 Analyzed: 04/03/2024					
Hexavalent Chromium	ND	0.246	mg/kg				-			U
LCS (1205691989-BKS)					Prepared: 04/03/2024 Analyzed: 04/03/2024					
Hexavalent Chromium	3.93	0.381	mg/kg	3.81		103	80-120			
DUP (1205691990 D)		**Source: Y403867-01**			Prepared: 04/03/2024 Analyzed: 04/03/2024					
Hexavalent Chromium	ND	0.464	mg/kg dry		<0.186		0-50	N/A	50	U
MS (1205691991 S)		**Source: Y403867-01**			Prepared: 04/03/2024 Analyzed: 04/03/2024					
Hexavalent Chromium	4.11	0.465	mg/kg dry	4.65	<0.186	87.7	75-125			
DUP (1205691992 D)		**Source: Y403867-11**			Prepared: 04/03/2024 Analyzed: 04/03/2024					
Hexavalent Chromium	ND	0.315	mg/kg dry		<0.126		0-50	N/A	50	U
MS (1205691993 S)		**Source: Y403867-11**			Prepared: 04/03/2024 Analyzed: 04/03/2024					
Hexavalent Chromium	1.51	0.316	mg/kg dry	3.16	<0.126	45	75-125			
ILCS (1205691994-ILCS)					Prepared: 04/03/2024 Analyzed: 04/03/2024					
Hexavalent Chromium	7.20	0.349	mg/kg	7.16		101	80-120			

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Notes and Definitions

Ua	Sample is Non-Detect.
U	Result not detected above the detection limit
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
J	Greater than the detection limit but less than the reporting limit
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

All soil results are reported on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

ORIGINS LABORATORY, INC

April 12, 2024

Mull Drilling

Kendall Pelton

1700 N Waterfront Pkway Bldg #1200

Wichita KS 67206

Project Name - Mauer SWD#1 **Project Number - [none]**

Attached are your analytical results for Mauer SWD#1 received by Origins Laboratory, Inc. April 04, 2024. This project is associated with Origins project number Y404132-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com

THE NELAC INSTITUTE

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EX SS 01 4'	Y404132-01	Soil	April 4, 2024 12:00	04/04/2024 15:00
EX SS 02 4'	Y404132-02	Soil	April 4, 2024 12:05	04/04/2024 15:00
EX SS 03 4'	Y404132-03	Soil	April 4, 2024 12:10	04/04/2024 15:00
EX SS 04 4'	Y404132-04	Soil	April 4, 2024 12:15	04/04/2024 15:00
EX SS 05 5'	Y404132-05	Soil	April 4, 2024 12:20	04/04/2024 15:00

Origins Laboratory, Inc.

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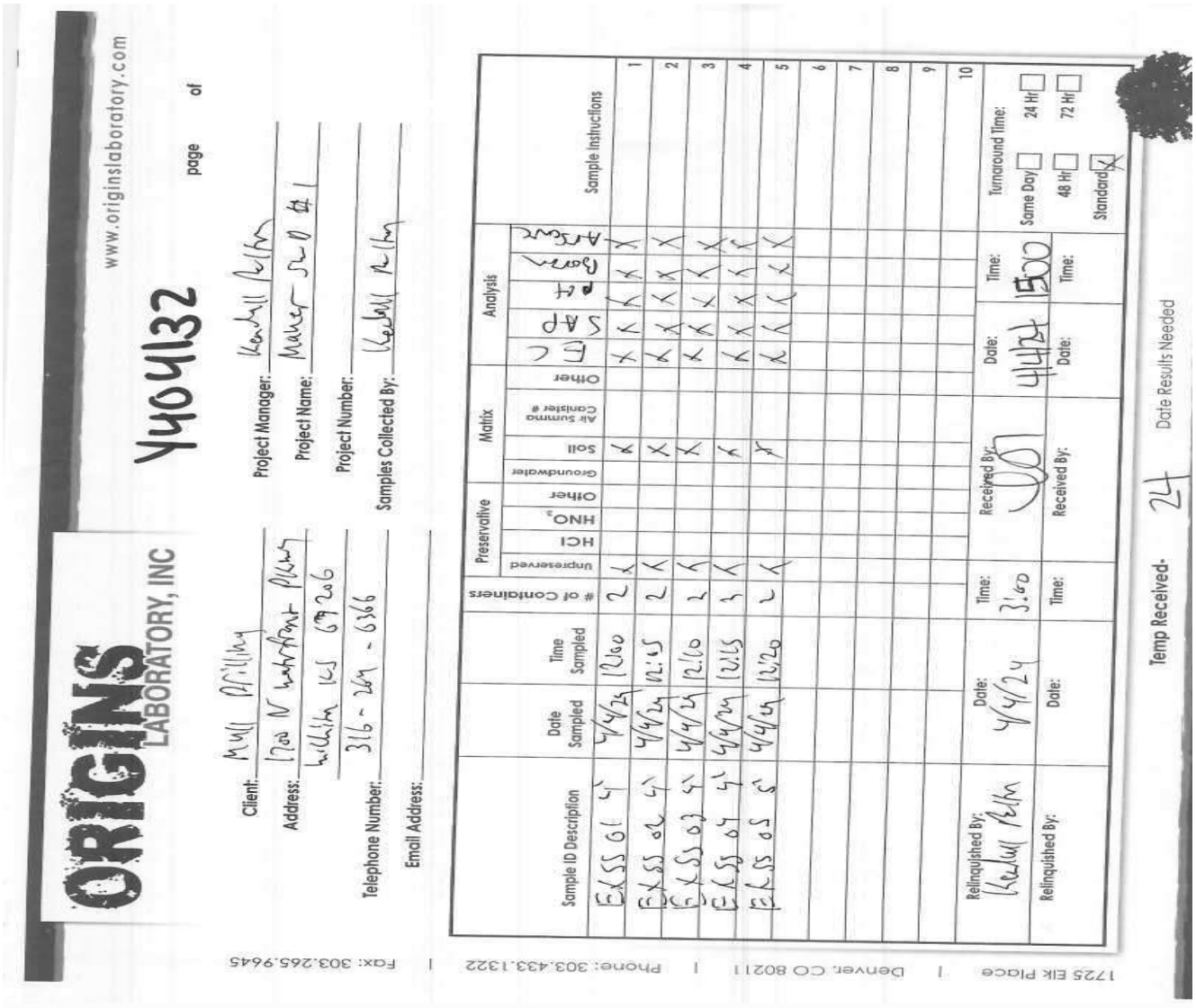
Jordan A. Bynon For Jen Pellegrini, Project Manager

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1



Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 1404132
Client: Mull
Client Project ID: Mauer SWD #1
Checklist Completed by: EHS
Shipped Via: HO (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 4/4/24
Airbill #: N/A
Matrix(s) Received: (Check all that apply): X Soil/Solid ____Water ____Other:____
Cooler Number/Temperature: 1 / 2.4 °C ____/____°C ____/____°C ____/____°C (Describe)
Thermometer ID: TOOL

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C[1]?		✓		SO
Is there ice present (document if blue ice is used)		✓		
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact[1]?	✓			
Was adequate sample volume provided[1]?	✓			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?		✓		
Is a chain-of-custody (COC) present and filled out completely[1]?	✓			
Does the COC agree with the number and type of sample bottles received[1]?	✓			
Do the sample IDs on the bottle labels match the COC[1]?	✓			
Is the COC properly relinquished by the client with date and time recorded[1]?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**			✓	
Are samples preserved that require preservation and was it checked[1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*			✓	
Additional Comments (if any):				

[1]If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments above and the case narrative.

Reviewed by (Project Manager) 4/8/24 Date/Time Reviewed

Origins Laboratory, Inc.

JByron

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EX SS 01 4'
4/4/2024 12:00:00PM

Origins Laboratory, Inc.
Y404132-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
Boron (DTPA Sorbitol)									
Boron	**3.29**	0.0982	mg/L	1	B4D0808	ACC	04/08/2024	04/09/2024	
Metals by Saturated Paste by EPA 6010									
Calcium	**18.4**	0.499	meq/L	10	[CALC]	ACC	04/06/2024	04/08/2024	
Magnesium	**44.0**	0.823	"	"	"	ACC	"	"	
Sodium	**86.6**	0.435	"	"	"	ACC	"	"	
pH in Soil by 9045D									
pH	**8.11**		pH Units	1	B4D0618	EAL	04/06/2024	04/08/2024	
SAR by 20B Saturated Paste									
SAR	**15.5**	0.0100	SAR	1	B4D0608	ACC	04/06/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**9.53**	0.00500	mmhos/cm	1	B4D0618	EAL	04/06/2024	04/08/2024	
Table 915 metals by EPA 6020B									
Arsenic	**9.04**	0.282	mg/kg	10	B4D0434	KMC	04/04/2024	04/08/2024	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EX SS 02 4'
4/4/2024 12:05:00PM

Origins Laboratory, Inc.
Y404132-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
Boron (DTPA Sorbitol)									
Boron	**2.81**	0.0987	mg/L	1	B4D0808	ACC	04/08/2024	04/09/2024	
Metals by Saturated Paste by EPA 6010									
Calcium	**20.9**	0.499	meq/L	10	[CALC]	ACC	04/06/2024	04/08/2024	
Magnesium	**40.0**	0.823	"	"	"	ACC	"	"	
Sodium	**71.1**	0.435	"	"	"	ACC	"	"	
pH in Soil by 9045D									
pH	**8.10**		pH Units	1	B4D0618	EAL	04/06/2024	04/08/2024	
SAR by 20B Saturated Paste									
SAR	**12.9**	0.0100	SAR	1	B4D0608	ACC	04/06/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**8.44**	0.00500	mmhos/cm	1	B4D0618	EAL	04/06/2024	04/08/2024	
Table 915 metals by EPA 6020B									
Arsenic	**7.60**	0.260	mg/kg	10	B4D0434	KMC	04/04/2024	04/08/2024	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EX SS 03 4'
4/4/2024 12:10:00PM

Origins Laboratory, Inc.
Y404132-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
Boron (DTPA Sorbitol)									
Boron	**2.95**	0.0994	mg/L	1	B4D0808	ACC	04/08/2024	04/09/2024	
Metals by Saturated Paste by EPA 6010									
Calcium	**20.8**	0.499	meq/L	10	[CALC]	ACC	04/06/2024	04/08/2024	
Magnesium	**48.2**	0.823	"	"	"	ACC	"	"	
Sodium	**83.8**	0.435	"	"	"	ACC	"	"	
pH in Soil by 9045D									
pH	**8.07**		pH Units	1	B4D0618	EAL	04/06/2024	04/08/2024	
SAR by 20B Saturated Paste									
SAR	**14.3**	0.0100	SAR	1	B4D0608	ACC	04/06/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**9.51**	0.00500	mmhos/cm	1	B4D0618	EAL	04/06/2024	04/08/2024	
Table 915 metals by EPA 6020B									
Arsenic	**7.34**	0.257	mg/kg	10	B4D0434	KMC	04/04/2024	04/08/2024	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EX SS 04 4'
4/4/2024 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y404132-04 (Soil)

Boron (DTPA Sorbitol)

Boron	**3.26**	0.0981	mg/L	1	B4D0808	ACC	04/08/2024	04/09/2024

Metals by Saturated Paste by EPA 6010

Calcium	**14.2**	0.499	meq/L	10	[CALC]	ACC	04/06/2024	04/08/2024
Magnesium	**35.2**	0.823	"	"	"	ACC	"	"
Sodium	**70.4**	0.435	"	"	"	ACC	"	"

pH in Soil by 9045D

pH	**8.16**		pH Units	1	B4D0618	EAL	04/06/2024	04/08/2024

SAR by 20B Saturated Paste

SAR	**14.2**	0.0100	SAR	1	B4D0608	ACC	04/06/2024	04/08/2024

Specific Conductance Mod. 9050A

Specific Conductance (EC)	**8.11**	0.00500	mmhos/cm	1	B4D0618	EAL	04/06/2024	04/08/2024

Table 915 metals by EPA 6020B

Arsenic	**6.66**	0.258	mg/kg	10	B4D0434	KMC	04/04/2024	04/08/2024

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EX SS 05 5'
4/4/2024 12:20:00PM

Origins Laboratory, Inc.
Y404132-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
Boron (DTPA Sorbitol)									
Boron	**2.92**	0.101	mg/L	1	B4D0808	ACC	04/08/2024	04/09/2024	
Metals by Saturated Paste by EPA 6010									
Calcium	**18.8**	0.499	meq/L	10	[CALC]	ACC	04/06/2024	04/08/2024	
Magnesium	**44.4**	0.823	"	"	"	ACC	"	"	
Sodium	**82.3**	0.435	"	"	"	ACC	"	"	
pH in Soil by 9045D									
pH	**8.11**		pH Units	1	B4D0618	EAL	04/06/2024	04/08/2024	
SAR by 20B Saturated Paste									
SAR	**14.6**	0.0100	SAR	1	B4D0608	ACC	04/06/2024	04/08/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**9.31**	0.00500	mmhos/cm	1	B4D0618	EAL	04/06/2024	04/08/2024	
Table 915 metals by EPA 6020B									
Arsenic	**8.91**	0.287	mg/kg	10	B4D0434	KMC	04/04/2024	04/08/2024	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0434 - EPA 3050B										
Blank (B4D0434-BLK1)					Prepared: 04/04/2024 Analyzed: 04/08/2024					
Arsenic	ND	0.290	mg/kg							
LCS (B4D0434-BS1)					Prepared: 04/04/2024 Analyzed: 04/09/2024					
Arsenic	4.82	0.0290	mg/kg	5.00		96.4	80-120			
Matrix Spike (B4D0434-MS1)		**Source: Y404109-01**			Prepared: 04/04/2024 Analyzed: 04/09/2024					
Arsenic	6.98	0.263	mg/kg	4.53	1.54	120	75-125			
Matrix Spike Dup (B4D0434-MSD1)		**Source: Y404109-01**			Prepared: 04/04/2024 Analyzed: 04/09/2024					
Arsenic	6.95	0.270	mg/kg	4.66	1.54	116	75-125	0.366	20	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0608 - Saturated Paste Metals										
Blank (B4D0608-BLK1)					Prepared: 04/06/2024 Analyzed: 04/08/2024					
SAR	ND	0.0100	SAR							
Calcium PPM	ND	10.0	mg/L							
Magnesium PPM	ND	10.0	"							
Sodium PPM	ND	10.0	"							
Duplicate (B4D0608-DUP1)			**Source: Y404132-01**		Prepared: 04/06/2024 Analyzed: 04/08/2024					
Calcium PPM	385	10.0	mg/L		369			4.19	50	
SAR	ND	0.0100	SAR		15.5				200	
Magnesium PPM	535	10.0	mg/L		535			0.0131	50	
Sodium PPM	1930	10.0	"		1990			3.35	50	
Batch B4D0808 - DTPA Sorbitol Preparation										
Blank (B4D0808-BLK1)					Prepared: 04/08/2024 Analyzed: 04/09/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4D0808-DUP1)			**Source: Y404127-04**		Prepared: 04/08/2024 Analyzed: 04/09/2024					
Boron	1.03	0.0998	mg/L		1.02			1.01	50	

Origins Laboratory, Inc.

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Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4D0618 - Saturated Paste pH/EC										
Blank (B4D0618-BLK1)					Prepared: 04/06/2024 Analyzed: 04/08/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4D0618-DUP1)		**Source: Y404132-01**			Prepared: 04/06/2024 Analyzed: 04/08/2024					
pH	8.09		pH Units		8.11			0.247	25	
Specific Conductance (EC)	9.31	0.00500	mmhos/cm		9.53			2.36	25	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Bynon For Jen Pellegrini, Project Manager

ORIGINS LABORATORY, INC

June 17, 2024

Mull Drilling

Kendall Pelton

1700 N Waterfront Pkway Bldg #1200

Wichita KS 67206

Project Name - Mauer SWD#1 **Project Number - [none]**

Attached are your analytical results for Mauer SWD#1 received by Origins Laboratory, Inc. May 29, 2024. This project is associated with Origins project number Y405796-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com

THE NELAC INSTITUTE

ACCREDITED
TESTING CERT # 3494.01

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Bg 09 1'	Y405796-01	Soil	May 29, 2024 10:50	05/29/2024 13:50
Bg 09 4'	Y405796-02	Soil	May 29, 2024 10:55	05/29/2024 13:50
Bg 09 6'	Y405796-03	Soil	May 29, 2024 11:00	05/29/2024 13:50
Bg 08 1'	Y405796-04	Soil	May 29, 2024 11:10	05/29/2024 13:50
Bg 08 4'	Y405796-05	Soil	May 29, 2024 11:15	05/29/2024 13:50
Bg 08 6'	Y405796-06	Soil	May 29, 2024 11:20	05/29/2024 13:50
Bg 07 1'	Y405796-07	Soil	May 29, 2024 11:30	05/29/2024 13:50
Bg 07 4'	Y405796-08	Soil	May 29, 2024 11:35	05/29/2024 13:50
Bg 07 6'	Y405796-09	Soil	May 29, 2024 11:40	05/29/2024 13:50

Origins Laboratory, Inc.

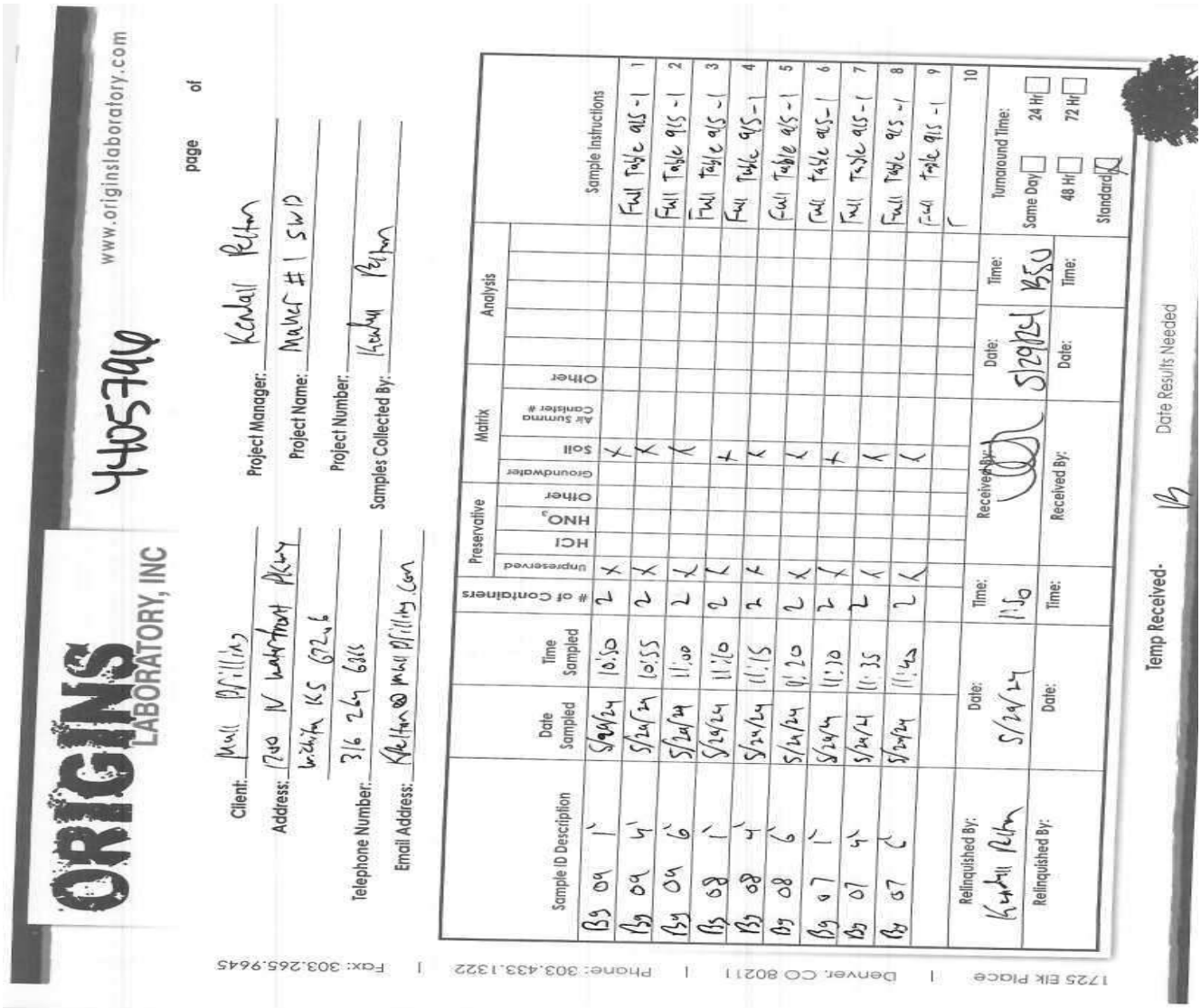
Jen Pellegrini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1



Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 24057946
Client: Mull Drilling
Client Project ID: Mauer #1 SWD
Checklist Completed by: JTT / SA
Shipped Via: tcp (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 5/29/24
Airbill #: N/A
Matrix(s) Received: (Check all that apply): X Soil/Solid ____ Water ____ Other: ____
Cooler Number/Temperature: 1 / 1.3 °C ____ / ____ °C ____ / ____ °C ____ / ____ °C (Describe)
Thermometer ID: T005

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C[1]?		/		
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact[1]?	/			
Was adequate sample volume provided[1]?	/			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?		/		
Is a chain-of-custody (COC) present and filled out completely[1]?	/			
Does the COC agree with the number and type of sample bottles received[1]?	/			
Do the sample IDs on the bottle labels match the COC[1]?	/			
Is the COC properly relinquished by the client with date and time recorded[1]?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**			/	
Are samples preserved that require preservation and was it checked[1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*			/	
Additional Comments (if any):				

[1]If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) 5/29/24 Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 1'
5/29/2024 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-01 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.421**		0.100	mg/L	1	B4E3013	05/30/2024	05/31/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*93.3 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*			"	"	"	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 1'
5/29/2024 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	*99.9 %*		*70-130*			*B4E3046*	*05/30/2024*	*05/31/2024*	
Surrogate: 4-Bromofluorobenzene	*111 %*		*70-130*			*"*	*"*	*"*	

Metals by Saturated Paste by EPA 6010

Calcium	**1.52**	0.499	meq/L	10	[CALC]	05/31/2024	06/03/2024	
Magnesium	ND	0.823	"	"	"	"	"	
Sodium	**1.41**	0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 1'
5/29/2024 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-01 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	*100 %*	*60-130*	"	"	"
Surrogate: Anthracene-d10	*95.6 %*	*60-130*	"	"	"
Surrogate: Pyrene-d10	*111 %*	*60-130*	"	"	"
Surrogate: Benzo (a) pyrene-d12	*102 %*	*60-130*	"	"	"

pH in Soil by 9045D

pH	**8.19**		pH Units	1	B4E3117	05/31/2024	05/31/2024

SAR by 20B Saturated Paste

SAR	**1.37**	0.0100	SAR	1	B4E3107	05/31/2024	06/03/2024

Specific Conductance Mod. 9050A

Specific Conductance (EC)	**0.262**	0.00500	mmhos/cm	1	B4E3117	05/31/2024	05/31/2024

Table 915 metals by EPA 6020B

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 1'
5/29/2024 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	**7.38**		0.253	mg/kg	10	B4E2924	05/29/2024	05/31/2024	
Barium	**120**		8.72	"	"	"	"	"	
Cadmium	**0.222**		0.0872	"	"	"	"	"	
Copper	**24.0**		8.72	"	"	"	"	"	
Lead	**13.9**		0.872	"	"	"	"	"	
Nickel	**16.2**		0.872	"	"	"	"	"	
Selenium	**0.687**		0.227	"	"	"	"	"	
Silver	ND		0.0872	"	"	"	"	"	Ua
Zinc	**109**		32.3	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.161	0.403	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 4'
5/29/2024 10:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-02 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.399**		0.0987	mg/L	1	B4E3013	05/30/2024	05/31/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*93.3 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*110 %*		*70-130*			"	"	"	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 4'
5/29/2024 10:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-02 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	*87.5 %*	*70-130*			*B4E3046*	*05/30/2024*	*05/31/2024*	
Surrogate: 4-Bromofluorobenzene	*109 %*	*70-130*			*"*	*"*	*"*	

Metals by Saturated Paste by EPA 6010

Calcium	**1.01**	0.499	meq/L	10	[CALC]	05/31/2024	06/03/2024	
Magnesium	ND	0.823	"	"	"	"	"	
Sodium	**1.44**	0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 4'
5/29/2024 10:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-02 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	*99.4 %*	*60-130*		"	"	"
Surrogate: Anthracene-d10	*95.5 %*	*60-130*		"	"	"
Surrogate: Pyrene-d10	*109 %*	*60-130*		"	"	"
Surrogate: Benzo (a) pyrene-d12	*103 %*	*60-130*		"	"	"

pH in Soil by 9045D

pH	**8.37**		pH Units	1	B4E3117	05/31/2024	05/31/2024

SAR by 20B Saturated Paste

SAR	**1.68**	0.0100	SAR	1	B4E3107	05/31/2024	06/03/2024

Specific Conductance Mod. 9050A

Specific Conductance (EC)	**0.265**	0.00500	mmhos/cm	1	B4E3117	05/31/2024	05/31/2024

Table 915 metals by EPA 6020B

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 4'
5/29/2024 10:55:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-02 (Soil)									
Table 915 metals by EPA 6020B									
Arsenic	**6.19**		0.264	mg/kg	10	B4E2924	05/29/2024	05/31/2024	
Barium	**116**		9.10	"	"	"	"	"	
Cadmium	**0.181**		0.0910	"	"	"	"	"	
Copper	**11.8**		9.10	"	"	"	"	"	
Lead	**11.7**		0.910	"	"	"	"	"	
Nickel	**11.4**		0.910	"	"	"	"	"	
Selenium	**0.631**		0.237	"	"	"	"	"	
Silver	ND		0.0910	"	"	"	"	"	Ua
Zinc	**41.3**		33.7	"	"	"	"	"	
Total Metals 7196A									
Hexavalent Chromium	ND	0.164	0.411	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 6'
5/29/2024 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-03 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**1.56**		0.0987	mg/L	1	B4E3013	05/30/2024	05/31/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*90.5 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*116 %*		*70-130*			"	"	"	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 6'
5/29/2024 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-03 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	*98.1 %*	*70-130*			*B4E3046*	*05/30/2024*	*05/31/2024*	
Surrogate: 4-Bromofluorobenzene	*104 %*	*70-130*			*"*	*"*	*"*	

Metals by Saturated Paste by EPA 6010

Calcium	**2.52**	0.499	meq/L	10	[CALC]	05/31/2024	06/03/2024	
Magnesium	**4.22**	0.823	"	"	"	"	"	
Sodium	**20.3**	0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 6'
5/29/2024 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-03 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	*99.1 %*	*60-130*		"	"	"
Surrogate: Anthracene-d10	*95.2 %*	*60-130*		"	"	"
Surrogate: Pyrene-d10	*109 %*	*60-130*		"	"	"
Surrogate: Benzo (a) pyrene-d12	*96.7 %*	*60-130*		"	"	"

pH in Soil by 9045D

pH	**8.48**		pH Units	1	B4E3117	05/31/2024	05/31/2024

SAR by 20B Saturated Paste

SAR	**11.0**	0.0100	SAR	1	B4E3107	05/31/2024	06/03/2024

Specific Conductance Mod. 9050A

Specific Conductance (EC)	**2.65**	0.00500	mmhos/cm	1	B4E3117	05/31/2024	05/31/2024

Table 915 metals by EPA 6020B

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 09 6'
5/29/2024 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-03 (Soil)

Table 915 metals by EPA 6020B

Arsenic	**7.67**		0.253	mg/kg	10	B4E2924	05/29/2024	05/31/2024	
Barium	**374**		8.72	"	"	"	"	"	
Cadmium	**0.184**		0.0872	"	"	"	"	"	
Copper	**15.8**		8.72	"	"	"	"	"	
Lead	**13.7**		0.872	"	"	"	"	"	
Nickel	**13.5**		0.872	"	"	"	"	"	
Selenium	**1.01**		0.227	"	"	"	"	"	
Silver	ND		0.0872	"	"	"	"	"	Ua
Zinc	**52.5**		32.3	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.187	0.467	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 1'
5/29/2024 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-04 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.448**		0.0989	mg/L	1	B4E3013	05/30/2024	05/31/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*92.7 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*111 %*		*70-130*			"	"	"	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 1'
5/29/2024 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-04 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	*89.1 %*	*70-130*			*B4E3046*	*05/30/2024*	*05/31/2024*	
Surrogate: 4-Bromofluorobenzene	*109 %*	*70-130*			*"*	*"*	*"*	

Metals by Saturated Paste by EPA 6010

Calcium	**4.98**	0.499	meq/L	10	[CALC]	05/31/2024	06/03/2024	
Magnesium	**1.78**	0.823	"	"	"	"	"	
Sodium	**2.68**	0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 1'
5/29/2024 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-04 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	*99.0 %*	*60-130*		"	"	"
Surrogate: Anthracene-d10	*94.4 %*	*60-130*		"	"	"
Surrogate: Pyrene-d10	*114 %*	*60-130*		"	"	"
Surrogate: Benzo (a) pyrene-d12	*100 %*	*60-130*		"	"	"

pH in Soil by 9045D

pH	**8.23**		pH Units	1	B4E3117	05/31/2024	05/31/2024

SAR by 20B Saturated Paste

SAR	**1.46**	0.0100	SAR	1	B4E3107	05/31/2024	06/03/2024

Specific Conductance Mod. 9050A

Specific Conductance (EC)	**0.864**	0.00500	mmhos/cm	1	B4E3117	05/31/2024	05/31/2024

Table 915 metals by EPA 6020B

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 1'
5/29/2024 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-04 (Soil)

Table 915 metals by EPA 6020B

Arsenic	**7.74**		0.278	mg/kg	10	B4E2924	05/29/2024	05/31/2024	
Barium	**140**		9.57	"	"	"	"	"	
Cadmium	**0.168**		0.0957	"	"	"	"	"	
Copper	**14.3**		9.57	"	"	"	"	"	
Lead	**14.5**		0.957	"	"	"	"	"	
Nickel	**12.8**		0.957	"	"	"	"	"	
Selenium	**0.661**		0.249	"	"	"	"	"	
Silver	ND		0.0957	"	"	"	"	"	Ua
Zinc	**50.5**		35.4	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.149	0.372	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 4'
5/29/2024 11:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-05 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.398**		0.101	mg/L	1	B4E3013	05/30/2024	05/31/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*87.5 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*106 %*		*70-130*			"	"	"	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 4'
5/29/2024 11:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-05 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	*91.8 %*		*70-130*			*B4E3046*	*05/30/2024*	*05/31/2024*	
Surrogate: 4-Bromofluorobenzene	*108 %*		*70-130*			*"*	*"*	*"*	

Metals by Saturated Paste by EPA 6010

Calcium	**5.24**	0.499	meq/L	10	[CALC]	05/31/2024	06/03/2024	
Magnesium	**3.35**	0.823	"	"	"	"	"	
Sodium	**4.68**	0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 4'
5/29/2024 11:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-05 (Soil)									
PAH by EPA 8270E									
Fluorene	ND		0.020	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua
Surrogate: Fluorene-d10	*99.6 %*		*60-130*			"	"	"	
Surrogate: Anthracene-d10	*95.3 %*		*60-130*			"	"	"	
Surrogate: Pyrene-d10	*114 %*		*60-130*			"	"	"	
Surrogate: Benzo (a) pyrene-d12	*99.5 %*		*60-130*			"	"	"	
pH in Soil by 9045D									
pH	**7.89**			pH Units	1	B4E3117	05/31/2024	05/31/2024	
SAR by 20B Saturated Paste									
SAR	**2.26**		0.0100	SAR	1	B4E3107	05/31/2024	06/03/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**1.32**		0.00500	mmhos/cm	1	B4E3117	05/31/2024	05/31/2024	
Table 915 metals by EPA 6020B									

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 4'
5/29/2024 11:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-05 (Soil)

Table 915 metals by EPA 6020B

Arsenic	**8.32**		0.279	mg/kg	10	B4E2924	05/29/2024	05/31/2024	
Barium	**132**		9.61	"	"	"	"	"	
Cadmium	**0.174**		0.0961	"	"	"	"	"	
Copper	**13.5**		9.61	"	"	"	"	"	
Lead	**14.4**		0.961	"	"	"	"	"	
Nickel	**11.8**		0.961	"	"	"	"	"	
Selenium	**0.485**		0.250	"	"	"	"	"	
Silver	ND		0.0961	"	"	"	"	"	Ua
Zinc	**46.6**		35.5	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.189	0.473	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 6'
5/29/2024 11:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-06 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.478**		0.101	mg/L	1	B4E3013	05/30/2024	05/31/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*86.8 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*			"	"	"	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 6'
5/29/2024 11:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-06 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	*99.8 %*		*70-130*			*B4E3046*	*05/30/2024*	*05/31/2024*	
Surrogate: 4-Bromofluorobenzene	*107 %*		*70-130*			*"*	*"*	*"*	

Metals by Saturated Paste by EPA 6010

Calcium	**2.32**	0.499	meq/L	10	[CALC]	05/31/2024	06/03/2024	
Magnesium	**2.31**	0.823	"	"	"	"	"	
Sodium	**6.88**	0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 6'
5/29/2024 11:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-06 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	*99.4 %*	*60-130*		"	"	"
Surrogate: Anthracene-d10	*95.3 %*	*60-130*		"	"	"
Surrogate: Pyrene-d10	*107 %*	*60-130*		"	"	"
Surrogate: Benzo (a) pyrene-d12	*100 %*	*60-130*		"	"	"

pH in Soil by 9045D

pH	**8.45**		pH Units	1	B4E3118	05/31/2024	05/31/2024

SAR by 20B Saturated Paste

SAR	**4.52**	0.0100	SAR	1	B4E3108	05/31/2024	06/03/2024

Specific Conductance Mod. 9050A

Specific Conductance (EC)	**1.18**	0.00500	mmhos/cm	1	B4E3118	05/31/2024	05/31/2024

Table 915 metals by EPA 6020B

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 08 6'
5/29/2024 11:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-06 (Soil)

Table 915 metals by EPA 6020B

Arsenic	**6.46**		0.280	mg/kg	10	B4E2924	05/29/2024	05/31/2024	
Barium	**122**		9.64	"	"	"	"	"	
Cadmium	**0.176**		0.0964	"	"	"	"	"	
Copper	**11.5**		9.64	"	"	"	"	"	
Lead	**12.5**		0.964	"	"	"	"	"	
Nickel	**10.7**		0.964	"	"	"	"	"	
Selenium	**0.431**		0.251	"	"	"	"	"	
Silver	ND		0.0964	"	"	"	"	"	Ua
Zinc	**45.1**		35.7	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.168	0.420	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 1'
5/29/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-07 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**0.983**		0.0994	mg/L	1	B4E3013	05/30/2024	05/31/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*84.1 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*107 %*		*70-130*			"	"	"	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 1'
5/29/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-07 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	*90.1 %*	*70-130*			*B4E3046*	*05/30/2024*	*05/31/2024*	
Surrogate: 4-Bromofluorobenzene	*110 %*	*70-130*			*"*	*"*	*"*	

Metals by Saturated Paste by EPA 6010

Calcium	**2.04**	0.499	meq/L	10	[CALC]	05/31/2024	06/03/2024	
Magnesium	**2.65**	0.823	"	"	"	"	"	
Sodium	**17.1**	0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 1'
5/29/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-07 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	*99.0 %*	*60-130*		"	"	"
Surrogate: Anthracene-d10	*95.0 %*	*60-130*		"	"	"
Surrogate: Pyrene-d10	*117 %*	*60-130*		"	"	"
Surrogate: Benzo (a) pyrene-d12	*101 %*	*60-130*		"	"	"

pH in Soil by 9045D

pH	**8.46**		pH Units	1	B4E3118	05/31/2024	05/31/2024

SAR by 20B Saturated Paste

SAR	**11.2**	0.0100	SAR	1	B4E3108	05/31/2024	06/03/2024

Specific Conductance Mod. 9050A

Specific Conductance (EC)	**2.14**	0.00500	mmhos/cm	1	B4E3118	05/31/2024	05/31/2024

Table 915 metals by EPA 6020B

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 1'
5/29/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-07 (Soil)

Table 915 metals by EPA 6020B

Arsenic	**7.71**		0.273	mg/kg	10	B4E2924	05/29/2024	05/31/2024	
Barium	**142**		9.40	"	"	"	"	"	
Cadmium	**0.222**		0.0940	"	"	"	"	"	
Copper	**15.4**		9.40	"	"	"	"	"	
Lead	**14.4**		0.940	"	"	"	"	"	
Nickel	**14.7**		0.940	"	"	"	"	"	
Selenium	**0.649**		0.244	"	"	"	"	"	
Silver	ND		0.0940	"	"	"	"	"	Ua
Zinc	**57.1**		34.8	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.170	0.426	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 4'
5/29/2024 11:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-08 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**1.64**		0.0991	mg/L	1	B4E3013	05/30/2024	05/31/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*79.1 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*126 %*		*70-130*			"	"	"	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 4'
5/29/2024 11:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-08 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	*97.4 %*	*70-130*			*B4E3046*	*05/30/2024*	*05/31/2024*	
Surrogate: 4-Bromofluorobenzene	*109 %*	*70-130*			*"*	*"*	*"*	

Metals by Saturated Paste by EPA 6010

Calcium	**3.98**	0.499	meq/L	10	[CALC]	05/31/2024	06/03/2024	
Magnesium	**7.93**	0.823	"	"	"	"	"	
Sodium	**36.9**	0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 4'
5/29/2024 11:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-08 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	*98.4 %*	*60-130*		"	"	"
Surrogate: Anthracene-d10	*94.0 %*	*60-130*		"	"	"
Surrogate: Pyrene-d10	*118 %*	*60-130*		"	"	"
Surrogate: Benzo (a) pyrene-d12	*97.4 %*	*60-130*		"	"	"

pH in Soil by 9045D

pH	**8.31**		pH Units	1	B4E3118	05/31/2024	05/31/2024

SAR by 20B Saturated Paste

SAR	**15.1**	0.0100	SAR	1	B4E3108	05/31/2024	06/03/2024

Specific Conductance Mod. 9050A

Specific Conductance (EC)	**4.89**	0.00500	mmhos/cm	1	B4E3118	05/31/2024	05/31/2024

Table 915 metals by EPA 6020B

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 4'
5/29/2024 11:35:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-08 (Soil)

Table 915 metals by EPA 6020B

Arsenic	**7.08**		0.269	mg/kg	10	B4E2924	05/29/2024	05/31/2024	
Barium	**144**		9.27	"	"	"	"	"	
Cadmium	**0.219**		0.0927	"	"	"	"	"	
Copper	**16.0**		9.27	"	"	"	"	"	
Lead	**14.7**		0.927	"	"	"	"	"	
Nickel	**15.1**		0.927	"	"	"	"	"	
Selenium	**0.730**		0.241	"	"	"	"	"	
Silver	ND		0.0927	"	"	"	"	"	Ua
Zinc	**57.3**		34.3	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.168	0.420	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 6'
5/29/2024 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-09 (Soil)									
Boron (DTPA Sorbitol)									
Boron	**1.93**		0.0990	mg/L	1	B4E3013	05/30/2024	05/31/2024	
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*86.6 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua
Surrogate: 1,2-Dichloroethane-d4	*108 %*		*70-130*			"	"	"	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 6'
5/29/2024 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-09 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	*89.5 %*	*70-130*			*B4E3046*	*05/30/2024*	*05/31/2024*	
Surrogate: 4-Bromofluorobenzene	*110 %*	*70-130*			*"*	*"*	*"*	

Metals by Saturated Paste by EPA 6010

Calcium	**5.06**	0.499	meq/L	10	[CALC]	05/31/2024	06/03/2024	
Magnesium	**11.6**	0.823	"	"	"	"	"	
Sodium	**45.6**	0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 6'
5/29/2024 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405796-09 (Soil)									
PAH by EPA 8270E									
Fluorene	ND		0.020	mg/kg	1	B4E3129	05/31/2024	06/01/2024	Ua
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua
Surrogate: Fluorene-d10	*99.7 %*		*60-130*			"	"	"	
Surrogate: Anthracene-d10	*94.7 %*		*60-130*			"	"	"	
Surrogate: Pyrene-d10	*116 %*		*60-130*			"	"	"	
Surrogate: Benzo (a) pyrene-d12	*97.7 %*		*60-130*			"	"	"	
pH in Soil by 9045D									
pH	**8.26**			pH Units	1	B4E3118	05/31/2024	05/31/2024	
SAR by 20B Saturated Paste									
SAR	**15.8**		0.0100	SAR	1	B4E3108	05/31/2024	06/03/2024	
Specific Conductance Mod. 9050A									
Specific Conductance (EC)	**5.98**		0.00500	mmhos/cm	1	B4E3118	05/31/2024	06/03/2024	
Table 915 metals by EPA 6020B									

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Ba 07 6'
5/29/2024 11:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes

Origins Laboratory, Inc.

Y405796-09 (Soil)

Table 915 metals by EPA 6020B

Arsenic	**5.42**		0.251	mg/kg	10	B4E2924	05/29/2024	05/31/2024	
Barium	**278**		8.67	"	"	"	"	"	
Cadmium	**0.166**		0.0867	"	"	"	"	"	
Copper	**11.8**		8.67	"	"	"	"	"	
Lead	**10.9**		0.867	"	"	"	"	"	
Nickel	**11.1**		0.867	"	"	"	"	"	
Selenium	**0.642**		0.225	"	"	"	"	"	
Silver	ND		0.0867	"	"	"	"	"	Ua
Zinc	**43.8**		32.1	"	"	"	"	"	

Total Metals 7196A

Hexavalent Chromium	ND	0.163	0.407	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3001 - EPA 3550B										
Blank (B4E3001-BLK1)					Prepared: 05/30/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	*21*		*"*	*24.9*		*85.0*	*50-150*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3001 - EPA 3550B										
LCS (B4E3001-BS1)					Prepared: 05/30/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	985	50.0	mg/kg	1000		98.5	70-130			
Residual Range Organics (C28-C40)	1040	200	"	1000		104	70-130			
Surrogate: o-Terphenyl	*55*		*"*	*49.8*		*111*	*50-150*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3001 - EPA 3550B										
Matrix Spike (B4E3001-MS1)		**Source: Y405785-01**			Prepared: 05/30/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	951	50.0	mg/kg	1000	ND	95.1	70-130			
Residual Range Organics (C28-C40)	1010	200	"	1000	ND	101	70-130			
Surrogate: o-Terphenyl	*50*		*"*	*49.8*		*101*	*50-150*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3001 - EPA 3550B										
Matrix Spike Dup (B4E3001-MSD1)		**Source: Y405785-01**			Prepared: 05/30/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	932	50.0	mg/kg	1000	ND	93.2	70-130	2.02	35	
Residual Range Organics (C28-C40)	996	200	"	1000	ND	99.6	70-130	1.36	35	
Surrogate: o-Terphenyl	*47*		*"*	*49.8*		*93.6*	*50-150*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3046 - EPA 5030 (soil)										
Blank (B4E3046-BLK1)				Prepared: 05/30/2024 Analyzed: 05/31/2024						
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	*0.10*		"	*0.125*		*80.0*	*70-130*			
Surrogate: Toluene-d8	*0.10*		"	*0.125*		*84.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*94.7*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3046 - EPA 5030 (soil)										
LCS (B4E3046-BS1)					Prepared: 05/30/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	0.0944	0.00200	mg/kg	0.100		94.4	70-130			
1,3,5-Trimethylbenzene	0.0977	0.00200	"	0.100		97.7	70-130			
Benzene	0.113	0.00200	"	0.100		113	70-130			
Ethylbenzene	0.0940	0.00200	"	0.100		94.0	70-130			
Naphthalene	0.0984	0.00380	"	0.100		98.4	70-130			
Toluene	0.0908	0.00200	"	0.100		90.8	70-130			
o-Xylene	0.0919	0.00200	"	0.100		91.9	70-130			
m,p-Xylene	0.183	0.00400	"	0.200		91.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.13*		"	*0.125*		*100*	*70-130*			
Surrogate: Toluene-d8	*0.11*		"	*0.125*		*88.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*98.3*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3046 - EPA 5030 (soil)										
Matrix Spike (B4E3046-MS1)		**Source: Y405787-01**			Prepared: 05/30/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	0.0489	0.00200	mg/kg	0.100	ND	48.9	70-130			QM-07
1,3,5-Trimethylbenzene	0.0480	0.00200	"	0.100	ND	48.0	70-130			QM-07
Benzene	0.0618	0.00200	"	0.100	ND	61.8	70-130			QM-07
Ethylbenzene	0.0538	0.00200	"	0.100	ND	53.8	70-130			QM-07
Naphthalene	0.0725	0.00380	"	0.100	ND	72.5	70-130			
Toluene	0.0521	0.00200	"	0.100	ND	52.1	70-130			QM-07
o-Xylene	0.0495	0.00200	"	0.100	ND	49.5	70-130			QM-07
m,p-Xylene	0.104	0.00400	"	0.200	ND	52.0	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	*0.13*		"	*0.125*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.11*		"	*0.125*		*89.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*97.7*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3046 - EPA 5030 (soil)										
Matrix Spike Dup (B4E3046-MSD1)		**Source: Y405787-01**			Prepared: 05/30/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	0.0627	0.00200	mg/kg	0.100	ND	62.7	70-130	24.7	20	QM-07
1,3,5-Trimethylbenzene	0.0680	0.00200	"	0.100	ND	68.0	70-130	34.6	20	QM-07
Benzene	0.0789	0.00200	"	0.100	ND	78.9	70-130	24.3	20	QR-02
Ethylbenzene	0.0655	0.00200	"	0.100	ND	65.5	70-130	19.5	20	QM-07
Naphthalene	0.0959	0.00380	"	0.100	ND	95.9	70-130	27.8	20	QR-02
Toluene	0.0664	0.00200	"	0.100	ND	66.4	70-130	24.2	20	QM-07
o-Xylene	0.0694	0.00200	"	0.100	ND	69.4	70-130	33.5	20	QM-07
m,p-Xylene	0.135	0.00400	"	0.200	ND	67.5	70-130	25.9	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	*0.13*		"	*0.125*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.12*		"	*0.125*		*92.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.14*		"	*0.125*		*112*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E2924 - EPA 3050B										
Blank (B4E2924-BLK1)					Prepared: 05/29/2024 Analyzed: 05/31/2024					
Arsenic	ND	0.290	mg/kg							Ua
LCS (B4E2924-BS1)					Prepared: 05/29/2024 Analyzed: 05/31/2024					
Arsenic	5.92	0.290	mg/kg	5.00		118	80-120			
Matrix Spike (B4E2924-MS1)		**Source: Y405432-01**			Prepared: 05/29/2024 Analyzed: 05/31/2024					
Arsenic	7.33	0.247	mg/kg	4.25	2.41	116	75-125			
Matrix Spike Dup (B4E2924-MSD1)		**Source: Y405432-01**			Prepared: 05/29/2024 Analyzed: 05/31/2024					
Arsenic	7.54	0.278	mg/kg	4.79	2.41	107	75-125	2.83	20	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3129 - EPA 3580										
Blank (B4E3129-BLK1)				Prepared: 05/31/2024 Analyzed: 06/01/2024						
1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua
Naphthalene	ND	0.002	"							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua
Surrogate: Fluorene-d10	*200*		*ug/kg*	*200*		*99.3*	*60-130*			
Surrogate: Anthracene-d10	*190*		*"*	*200*		*94.5*	*60-130*			
Surrogate: Pyrene-d10	*220*		*"*	*200*		*111*	*60-130*			
Surrogate: Benzo (a) pyrene-d12	*200*		*"*	*200*		*100*	*60-130*			
LCS (B4E3129-BS1)				Prepared: 05/31/2024 Analyzed: 06/01/2024						
1-Methylnaphthalene	0.187	0.002	mg/kg	0.200		93.3	70-130			
2-Methylnaphthalene	0.186	0.002	"	0.200		93.1	70-130			
Acenaphthene	0.199	0.020	"	0.200		99.4	70-130			
Anthracene	0.196	0.020	"	0.200		98.0	70-130			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3129 - EPA 3580										
LCS (B4E3129-BS1)					Prepared: 05/31/2024 Analyzed: 06/01/2024					
Benzo (a) anthracene	0.191	0.005	mg/kg	0.200		95.5	70-130			
Benzo (a) pyrene	0.200	0.020	"	0.200		100	70-130			
Benzo (b) fluoranthene	0.200	0.020	"	0.200		100	70-130			
Benzo (g,h,i) perylene	0.194	0.020	"	0.200		96.8	70-130			
Benzo (k) fluoranthene	0.188	0.020	"	0.200		94.2	70-130			
Chrysene	0.197	0.020	"	0.200		98.7	70-130			
Dibenz (a,h) anthracene	0.190	0.020	"	0.200		94.8	70-130			
Fluoranthene	0.176	0.020	"	0.200		87.9	70-130			
Fluorene	0.201	0.020	"	0.200		101	70-130			
Indeno (1,2,3-cd) pyrene	0.193	0.020	"	0.200		96.5	70-130			
Naphthalene	0.197	0.002	"	0.200		98.7	70-130			
Phenanthrene	0.195	0.020	"	0.200		97.3	70-130			
Pyrene	0.206	0.020	"	0.200		103	70-130			
Surrogate: Fluorene-d10	*200*		*ug/kg*	*200*		*99.0*	*60-130*			
Surrogate: Anthracene-d10	*190*		*"*	*200*		*95.5*	*60-130*			
Surrogate: Pyrene-d10	*220*		*"*	*200*		*112*	*60-130*			
Surrogate: Benzo (a) pyrene-d12	*200*		*"*	*200*		*101*	*60-130*			
Matrix Spike (B4E3129-MS1)		**Source: Y405796-01**			Prepared: 05/31/2024 Analyzed: 06/01/2024					
1-Methylnaphthalene	0.195	0.002	mg/kg	0.200	ND	97.7	70-130			
2-Methylnaphthalene	0.196	0.002	"	0.200	ND	97.9	70-130			
Acenaphthene	0.209	0.020	"	0.200	ND	104	70-130			
Anthracene	0.197	0.020	"	0.200	0.0007	98.2	70-130			
Benzo (a) anthracene	0.199	0.005	"	0.200	0.0007	99.3	70-130			
Benzo (a) pyrene	0.213	0.020	"	0.200	0.001	106	70-130			
Benzo (b) fluoranthene	0.211	0.020	"	0.200	0.0006	105	70-130			
Benzo (g,h,i) perylene	0.199	0.020	"	0.200	0.0004	99.4	70-130			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3129 - EPA 3580										
Matrix Spike (B4E3129-MS1)		**Source: Y405796-01**			Prepared: 05/31/2024 Analyzed: 06/01/2024					
Benzo (k) fluoranthene	0.210	0.020	mg/kg	0.200	0.0005	105	70-130			
Chrysene	0.196	0.020	"	0.200	0.0009	97.5	70-130			
Dibenz (a,h) anthracene	0.208	0.020	"	0.200	0.0008	104	70-130			
Fluoranthene	0.174	0.020	"	0.200	ND	87.1	70-130			
Fluorene	0.208	0.020	"	0.200	ND	104	70-130			
Indeno (1,2,3-cd) pyrene	0.207	0.020	"	0.200	ND	103	70-130			
Naphthalene	0.207	0.002	"	0.200	ND	103	70-130			
Phenanthrene	0.204	0.020	"	0.200	ND	102	70-130			
Pyrene	0.224	0.020	"	0.200	0.0006	112	70-130			
Surrogate: Fluorene-d10	*200*		*ug/kg*	*200*		*98.4*	*60-130*			
Surrogate: Anthracene-d10	*190*		*"*	*200*		*95.7*	*60-130*			
Surrogate: Pyrene-d10	*230*		*"*	*200*		*116*	*60-130*			
Surrogate: Benzo (a) pyrene-d12	*200*		*"*	*200*		*98.9*	*60-130*			
Matrix Spike Dup (B4E3129-MSD1)		**Source: Y405796-01**			Prepared: 05/31/2024 Analyzed: 06/01/2024					
1-Methylnaphthalene	0.194	0.002	mg/kg	0.200	ND	97.1	70-130	0.577	20	
2-Methylnaphthalene	0.195	0.002	"	0.200	ND	97.5	70-130	0.401	20	
Acenaphthene	0.210	0.020	"	0.200	ND	105	70-130	0.421	20	
Anthracene	0.207	0.020	"	0.200	0.0007	103	70-130	4.88	20	
Benzo (a) anthracene	0.200	0.005	"	0.200	0.0007	99.8	70-130	0.489	20	
Benzo (a) pyrene	0.215	0.020	"	0.200	0.001	107	70-130	0.883	20	
Benzo (b) fluoranthene	0.211	0.020	"	0.200	0.0006	105	70-130	0.180	20	
Benzo (g,h,i) perylene	0.201	0.020	"	0.200	0.0004	100	70-130	0.829	20	
Benzo (k) fluoranthene	0.209	0.020	"	0.200	0.0005	104	70-130	0.461	20	
Chrysene	0.196	0.020	"	0.200	0.0009	97.8	70-130	0.314	20	
Dibenz (a,h) anthracene	0.210	0.020	"	0.200	0.0008	105	70-130	0.941	20	
Fluoranthene	0.175	0.020	"	0.200	ND	87.4	70-130	0.347	20	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3129 - EPA 3580										
Matrix Spike Dup (B4E3129-MSD1)		**Source: Y405796-01**			Prepared: 05/31/2024 Analyzed: 06/01/2024					
Fluorene	0.211	0.020	mg/kg	0.200	ND	106	70-130	1.58	20	
Indeno (1,2,3-cd) pyrene	0.201	0.020	"	0.200	ND	100	70-130	2.78	20	
Naphthalene	0.208	0.002	"	0.200	ND	104	70-130	0.610	20	
Phenanthrene	0.203	0.020	"	0.200	ND	101	70-130	0.927	20	
Pyrene	0.227	0.020	"	0.200	0.0006	113	70-130	1.38	20	
Surrogate: Fluorene-d10	*200*		*ug/kg*	*200*		*99.1*	*60-130*			
Surrogate: Anthracene-d10	*190*		*"*	*200*		*95.9*	*60-130*			
Surrogate: Pyrene-d10	*240*		*"*	*200*		*118*	*60-130*			
Surrogate: Benzo (a) pyrene-d12	*200*		*"*	*200*		*102*	*60-130*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3013 - DTPA Sorbitol Preparation										
Blank (B4E3013-BLK1)					Prepared: 05/30/2024 Analyzed: 05/31/2024					
Boron	ND	0.100	mg/L							Ua
Duplicate (B4E3013-DUP1)		**Source: Y405796-01**			Prepared: 05/30/2024 Analyzed: 05/31/2024					
Boron	0.405	0.0987	mg/L		0.421			3.95	50	
Batch B4E3107 - Saturated Paste Metals										
Blank (B4E3107-BLK1)					Prepared: 05/31/2024 Analyzed: 06/03/2024					
SAR	ND	0.0100	SAR							Ua
Calcium PPM	ND	10.0	mg/L							Ua
Magnesium PPM	ND	10.0	"							Ua
Sodium PPM	ND	10.0	"							Ua
Duplicate (B4E3107-DUP1)		**Source: Y405796-01**			Prepared: 05/31/2024 Analyzed: 06/03/2024					
Calcium PPM	39.2	10.0	mg/L		30.4			25.2	50	
SAR	ND	0.0100	SAR		1.37				200	Ua
Magnesium PPM	8.89	10.0	mg/L		7.54			16.4	50	Ua
Sodium PPM	28.0	10.0	"		32.5			14.7	50	
Batch B4E3108 - Saturated Paste Metals										
Blank (B4E3108-BLK1)					Prepared: 05/31/2024 Analyzed: 06/03/2024					
Calcium PPM	ND	10.0	mg/L							Ua
SAR	ND	0.0100	SAR							Ua
Magnesium PPM	ND	10.0	mg/L							Ua
Sodium PPM	ND	10.0	"							Ua

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3108 - Saturated Paste Metals										
Duplicate (B4E3108-DUP1)		**Source: Y405796-06**			Prepared: 05/31/2024 Analyzed: 06/03/2024					
SAR	ND	0.0100	SAR		4.52				200	Ua
Calcium PPM	43.8	10.0	mg/L		46.5			6.03	50	
Magnesium PPM	27.2	10.0	"		28.1			2.96	50	
Sodium PPM	156	10.0	"		158			1.41	50	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3117 - Saturated Paste pH/EC										
Blank (B4E3117-BLK1)					Prepared: 05/31/2024 Analyzed: 05/31/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							Ua
Duplicate (B4E3117-DUP1)		**Source: Y405756-03**			Prepared: 05/31/2024 Analyzed: 05/31/2024					
pH	8.33		pH Units		8.18			1.82	25	
Specific Conductance (EC)	0.279	0.00500	mmhos/cm		1.01			114	25	
Batch B4E3118 - Saturated Paste pH/EC										
Blank (B4E3118-BLK1)					Prepared: 05/31/2024 Analyzed: 05/31/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							Ua
Duplicate (B4E3118-DUP1)		**Source: Y405796-06**			Prepared: 05/31/2024 Analyzed: 05/31/2024					
pH	8.44		pH Units		8.45			0.118	25	
Specific Conductance (EC)	1.22	0.00500	mmhos/cm		1.18			2.69	25	

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Total Metals 7196A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2619640 - SW846 3060A										
BLANK (1205748916-BLK)					Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	ND	0.274	mg/kg				-			U
LCS (1205748917-BKS)					Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	3.15	0.324	mg/kg	3.24		97.3	80-120			
DUP (1205748918 D)		**Source: Y405796-01**			Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	ND	0.402	mg/kg dry		<0.161		0-50	N/A	50	U
MS (1205748919 S)		**Source: Y405796-01**			Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	0.854	0.402	mg/kg dry	4.02	<0.161	18.8	75-125			
DUP (1205748920 D)		**Source: 669597002**			Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	ND	0.414	mg/kg dry		<0.166		0-50	N/A	50	U
MS (1205748921 S)		**Source: 669597002**			Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	1.34	0.414	mg/kg dry	4.14	<0.166	32	75-125			
ILCS (1205748922-ILCS)					Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	5.83	0.281	mg/kg	5.72		102	80-120			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Notes and Definitions

Ua	Sample is Non-Detect.
U	Result not detected above the detection limit
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

All soil results are reported on a wet weight basis.

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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ORIGINS LABORATORY, INC

June 17, 2024

Mull Drilling

Kendall Pelton

1700 N Waterfront Pkway Bldg #1200

Wichita KS 67206

Project Name - Mauer SWD#1 **Project Number - [none]**

Attached are your analytical results for Mauer SWD#1 received by Origins Laboratory, Inc. May 29, 2024. This project is associated with Origins project number Y405798-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com

THE NELAC INSTITUTE

ACCREDITED
TESTING CERT # 3494.01

ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EXSS 01 4'	Y405798-01	Soil	May 29, 2024 10:10	05/29/2024 13:50
EXSS 02 4'	Y405798-02	Soil	May 29, 2024 10:15	05/29/2024 13:50
EXSS 03 4'	Y405798-03	Soil	May 29, 2024 10:20	05/29/2024 13:50
EXSS 04 4'	Y405798-04	Soil	May 29, 2024 10:25	05/29/2024 13:50
EXSS 05 8'	Y405798-05	Soil	May 29, 2024 10:30	05/29/2024 13:50

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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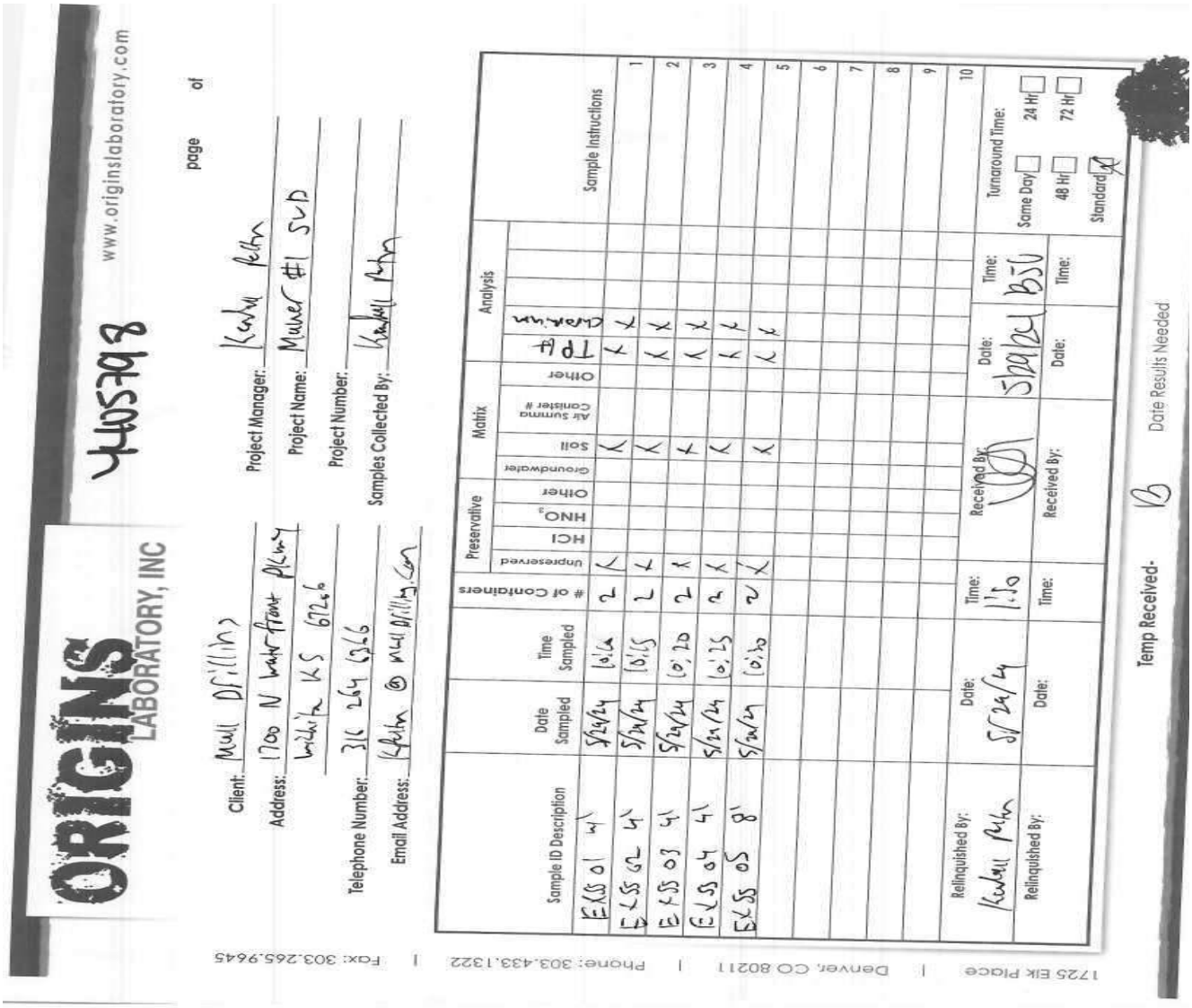
ORIGINS LABORATORY, INC

Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1



Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 4405798

Client: Mull Drilling
Client Project ID: Mauer #1

Checklist Completed by: JM SA
Date/time completed: 5/29/24

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: N/A

Matrix(s) Received: (Check all that apply): X Soil/Solid ____ Water ____ Other: ____

Cooler Number/Temperature: 1 / B °C ____ / ____ °C ____ / ____ °C ____ / ____ °C (Describe)

Thermometer ID: TM5

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C[1]?		/		
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact[1]?	/			
Was adequate sample volume provided[1]?	/			
Are short holding time analytes or samples with HTs due within 48 hours present[1]?		/		
Is a chain-of-custody (COC) present and filled out completely[1]?	/			
Does the COC agree with the number and type of sample bottles received[1]?	/			
Do the sample IDs on the bottle labels match the COC[1]?	/			
Is the COC properly relinquished by the client with date and time recorded[1]?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? **If yes, contact client and note in narrative.**			/	
Are samples preserved that require preservation and was it checked [1]? *(note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)*			/	
Additional Comments (if any):				

[1]*If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.*

Reviewed by (Project Manager) 5/30/24 Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EXSS 01 4'
5/29/2024 10:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405798-01 (Soil)									
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*90.9 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*107 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*93.2 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*102 %*		*70-130*			"	"	"	
Total Metals 7196A									
Hexavalent Chromium	ND	0.160	0.400	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EXSS 02 4'
5/29/2024 10:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405798-02 (Soil)									
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*87.9 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*106 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*85.8 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*93.8 %*		*70-130*			"	"	"	
Total Metals 7196A									
Hexavalent Chromium	ND	0.165	0.413	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EXSS 03 4'
5/29/2024 10:20:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405798-03 (Soil)									
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*84.6 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*101 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*95.4 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*119 %*		*70-130*			"	"	"	
Total Metals 7196A									
Hexavalent Chromium	ND	0.163	0.408	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EXSS 04 4'
5/29/2024 10:25:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405798-04 (Soil)									
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*83.4 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*106 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*84.6 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*96.4 %*		*70-130*			"	"	"	
Total Metals 7196A									
Hexavalent Chromium	ND	0.178	0.444	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

EXSS 05 8'
5/29/2024 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
Y405798-05 (Soil)									
DRO/ORO by EPA 8015D									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B4E3001	05/30/2024	06/05/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua
Surrogate: o-Terphenyl	*85.9 %*		*50-150*			"	"	"	
GBTEX+TMBs by 8260D									
Gasoline Range Hydrocarbons	ND		0.200	mg/kg	1	B4E3046	05/30/2024	05/31/2024	Ua
Surrogate: 1,2-Dichloroethane-d4	*111 %*		*70-130*			"	"	"	
Surrogate: Toluene-d8	*83.9 %*		*70-130*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*99.4 %*		*70-130*			"	"	"	
Total Metals 7196A									
Hexavalent Chromium	ND	0.178	0.445	mg/kg dry	1	2619640	06/01/2024	06/03/2024	U

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3001 - EPA 3550B										
Blank (B4E3001-BLK1)					Prepared: 05/30/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	*21*		*"*	*24.9*		*85.0*	*50-150*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3001 - EPA 3550B										
LCS (B4E3001-BS1)					Prepared: 05/30/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	985	50.0	mg/kg	1000		98.5	70-130			
Residual Range Organics (C28-C40)	1040	200	"	1000		104	70-130			
Surrogate: o-Terphenyl	*55*		*"*	*49.8*		*111*	*50-150*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3001 - EPA 3550B										
Matrix Spike (B4E3001-MS1)		**Source: Y405785-01**			Prepared: 05/30/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	951	50.0	mg/kg	1000	ND	95.1	70-130			
Residual Range Organics (C28-C40)	1010	200	"	1000	ND	101	70-130			
Surrogate: o-Terphenyl	*50*		*"*	*49.8*		*101*	*50-150*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3001 - EPA 3550B										
Matrix Spike Dup (B4E3001-MSD1)		**Source: Y405785-01**			Prepared: 05/30/2024 Analyzed: 06/04/2024					
Diesel (C10-C28)	932	50.0	mg/kg	1000	ND	93.2	70-130	2.02	35	
Residual Range Organics (C28-C40)	996	200	"	1000	ND	99.6	70-130	1.36	35	
Surrogate: o-Terphenyl	*47*		*"*	*49.8*		*93.6*	*50-150*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3046 - EPA 5030 (soil)										
Blank (B4E3046-BLK1)				Prepared: 05/30/2024 Analyzed: 05/31/2024						
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	*0.10*		"	*0.125*		*80.0*	*70-130*			
Surrogate: Toluene-d8	*0.10*		"	*0.125*		*84.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*94.7*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3046 - EPA 5030 (soil)										
LCS (B4E3046-BS1)					Prepared: 05/30/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	0.0944	0.00200	mg/kg	0.100		94.4	70-130			
1,3,5-Trimethylbenzene	0.0977	0.00200	"	0.100		97.7	70-130			
Benzene	0.113	0.00200	"	0.100		113	70-130			
Ethylbenzene	0.0940	0.00200	"	0.100		94.0	70-130			
Naphthalene	0.0984	0.00380	"	0.100		98.4	70-130			
Toluene	0.0908	0.00200	"	0.100		90.8	70-130			
o-Xylene	0.0919	0.00200	"	0.100		91.9	70-130			
m,p-Xylene	0.183	0.00400	"	0.200		91.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.13*		"	*0.125*		*100*	*70-130*			
Surrogate: Toluene-d8	*0.11*		"	*0.125*		*88.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*98.3*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3046 - EPA 5030 (soil)										
Matrix Spike (B4E3046-MS1)		**Source: Y405787-01**			Prepared: 05/30/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	0.0489	0.00200	mg/kg	0.100	ND	48.9	70-130			QM-07
1,3,5-Trimethylbenzene	0.0480	0.00200	"	0.100	ND	48.0	70-130			QM-07
Benzene	0.0618	0.00200	"	0.100	ND	61.8	70-130			QM-07
Ethylbenzene	0.0538	0.00200	"	0.100	ND	53.8	70-130			QM-07
Naphthalene	0.0725	0.00380	"	0.100	ND	72.5	70-130			
Toluene	0.0521	0.00200	"	0.100	ND	52.1	70-130			QM-07
o-Xylene	0.0495	0.00200	"	0.100	ND	49.5	70-130			QM-07
m,p-Xylene	0.104	0.00400	"	0.200	ND	52.0	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	*0.13*		"	*0.125*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.11*		"	*0.125*		*89.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.12*		"	*0.125*		*97.7*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4E3046 - EPA 5030 (soil)										
Matrix Spike Dup (B4E3046-MSD1)		**Source: Y405787-01**			Prepared: 05/30/2024 Analyzed: 05/31/2024					
1,2,4-Trimethylbenzene	0.0627	0.00200	mg/kg	0.100	ND	62.7	70-130	24.7	20	QM-07
1,3,5-Trimethylbenzene	0.0680	0.00200	"	0.100	ND	68.0	70-130	34.6	20	QM-07
Benzene	0.0789	0.00200	"	0.100	ND	78.9	70-130	24.3	20	QR-02
Ethylbenzene	0.0655	0.00200	"	0.100	ND	65.5	70-130	19.5	20	QM-07
Naphthalene	0.0959	0.00380	"	0.100	ND	95.9	70-130	27.8	20	QR-02
Toluene	0.0664	0.00200	"	0.100	ND	66.4	70-130	24.2	20	QM-07
o-Xylene	0.0694	0.00200	"	0.100	ND	69.4	70-130	33.5	20	QM-07
m,p-Xylene	0.135	0.00400	"	0.200	ND	67.5	70-130	25.9	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	*0.13*		"	*0.125*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.12*		"	*0.125*		*92.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.14*		"	*0.125*		*112*	*70-130*			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Total Metals 7196A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2619640 - SW846 3060A										
BLANK (1205748916-BLK)					Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	ND	0.274	mg/kg				-			U
LCS (1205748917-BKS)					Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	3.15	0.324	mg/kg	3.24		97.3	80-120			
DUP (1205748918 D)		**Source: 669595001**			Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	ND	0.402	mg/kg dry		<0.161		0-50	N/A	50	U
MS (1205748919 S)		**Source: 669595001**			Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	0.854	0.402	mg/kg dry	4.02	<0.161	18.8	75-125			
DUP (1205748920 D)		**Source: Y405798-02**			Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	ND	0.414	mg/kg dry		<0.166		0-50	N/A	50	U
MS (1205748921 S)		**Source: Y405798-02**			Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	1.34	0.414	mg/kg dry	4.14	<0.166	32	75-125			
ILCS (1205748922-ILCS)					Prepared: 06/01/2024 Analyzed: 06/03/2024					
Hexavalent Chromium	5.83	0.281	mg/kg	5.72		102	80-120			

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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Mull Drilling
1700 N Waterfront Pkway Bldg #1200
Wichita KS 67206

Kendall Pelton
Project Number: [none]
Project: Mauer SWD#1

Notes and Definitions

Ua	Sample is Non-Detect.
U	Result not detected above the detection limit
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

All soil results are reported on a wet weight basis.

Origins Laboratory, Inc.

Jen Pellegrini, Project Manager

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