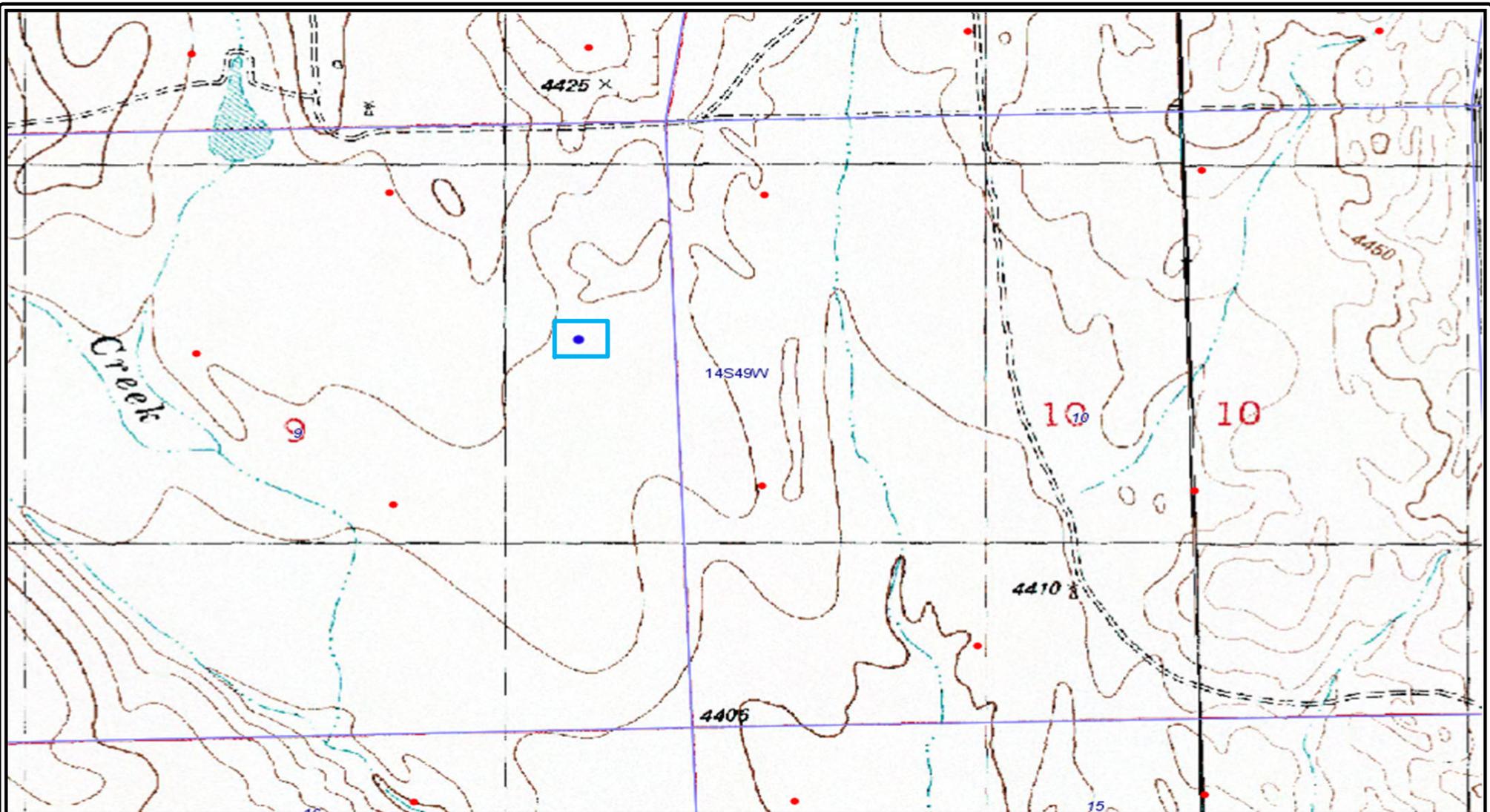




FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Soil Sample Location Map



MULL DRILLING COMPANY, INC.
 MULL UNIT #20
 API 05-017-06274
 SENE S9, T14S R49W, CHEYENNE COUNTY
 TOPOGRAPHIC MAP

Legend



Location Boundary



0 ft 350 ft 700 ft



Prepared By:
 Ardor Environmental LLC

December 26, 2023



MULL DRILLING COMPANY, INC.
 MULL UNIT #20
 API 05-017-06274
 SENE S9, T14S R49W, CHEYENNE COUNTY
 SOIL SAMPLE LOCATIONS

Legend

-  Soil Sample Locations
-  Background Sample



Prepared By:
 Ardor Environmental LLC

April 8, 2024



TABLES

Table 1: Analytical Results Summary

MUSF 20 Table 915-1			4/13/2023						10/24/2023				2/28/2024							
CLEANUP CONCENTRATIONS	Sample Point		SP1	SP1	SP2	SP3	SP4	SP5	SP6 (BG1)	SP3	SP7	SP8	SP9	SP1	SP2	SP3	SP5	BG1	BG1	
	Depth	Concentrations	1'	4'	1'	1'	1'	1'	1'	4'	1'	1'	1'	6'	4'	6'	4'	4'	6'	
Contaminant of Concern	Concentrations		38.845399; -102.890035	38.845399; -102.890035	38.845438; -102.890148	38.845617; -102.889595	38.845349; -102.889941	38.845426; -102.889735	38.845532; -102.890538	38.845617; -102.889595	38.845518; -102.889569	38.845646; -102.889755	38.845534; -102.889732	38.845399; -102.890035	38.845438; -102.890148	38.845617; -102.889595	38.845426; -102.889735	38.845532; -102.890538		
Soil TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	500mg/kg		6.9J	ND	5.7J	7.7J	49	72.1	21.6	ERO 6.7 GRO U	ERO 4.9 GRO U	ERO 34 GRO U	ERO 12 GRO U	NA	NA	NA	NA	NA	NA	
PID Reading			0.0 ppm	0.3 ppm	0.1 ppm	0.0 ppm	0.0 ppm	0.0 ppm	0.0 ppm											
Soil Suitability for Reclamation																				
Electrical conductivity (EC) (by saturated paste method)	<4mmhos/cm		0.163	0.141	0.114	2.7	0.133	0.203	0.16	1.4	0.8	11	3	NA	NA	NA	NA	NA	NA	
Sodium adsorption ratio (SAR) (by saturated paste method)	<6		0.3	0.399	0.108	2.55	0.118	0.0763	0.0756	6.1	0.25	4.2	1.2	NA	NA	NA	NA	NA	NA	
pH (by saturated paste method)	6-8.3		8.44	8.4	8.23	7.69	7.92	7.83	7.86	8.35	8.1	7.29	7.22	8.51	8.46	8.5	8.54	8.38	8.5	
boron (hot water soluble soil extract)	2mg/l		0.176J	0.195J	0.195J	0.418	0.252	0.322	0.201	0.35	0.71	0.47	0.48	NA	NA	NA	NA	NA	NA	
Organic Compounds in Groundwater																				
benzene	5µg/l		NA	NA																
toluene	560 to 1,000µg/l		NA	NA																
ethylbenzene	700µg/l		NA	NA																
xlenes (sum of o-, m- and p- isomers = total xlenes)	1,400 to 10,000µg/l		NA	NA																
naphthalene	140µg/l		NA	NA																
1,2,4-trimethylbenzene	67µg/l		NA	NA																
1,3,5-trimethylbenzene	67µg/l		NA	NA																
Groundwater Inorganic Parameters																				
total dissolved solids (TDS)	<1.25 X local background		NA	NA																
chloride ion	250mg/l or <1.25 X local background		NA	NA																
sulfate ion	250mg/l or <1.25 X local background		NA	NA																
Soils	Residential Soil Screening Level Concentrations (mg/kg)	Protection of Groundwater Soil Screening Level Concentrations (mg/kg)	SP1	SP1	SP2	SP3	SP4	SP5	SP6 (BG1)	SP3	SP7	SP8	SP9	SP1	SP2	SP3	SP5	BG1	BG1	
	Depth	Depth	1'	4'	1'	1'	1'	1'	1'	4'	1'	1'	1'	6'	4'	6'	4'	4'	6'	
Organic Compounds in Soils																				
benzene	1.2	0.0026 (M)	ND	U	0.0022 J	0.0027 J	0.0016 J	NA	NA	NA	NA	NA	NA							
toluene	490	0.69 (M)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
ethylbenzene	5.8	0.78 (M)	ND	ND	ND	0.0011J	ND	ND	ND	U	U	U	U	NA	NA	NA	NA	NA	NA	
xlenes (sum of o-, m- and p- isomers = total xlenes)	58	9.9 (M)	ND	ND	ND	0.0061J	ND	ND	ND	U	U	U	U	NA	NA	NA	NA	NA	NA	
1,2,4-trimethylbenzene	30	0.0081 (R)	ND	ND	ND	0.0019J	ND	0.0010J	ND	U	U	U	U	NA	NA	NA	NA	NA	NA	
1,3,5-trimethylbenzene	27	0.0087 (R)	ND	ND	ND	0.00064J	ND	ND	ND	U	U	U	U	NA	NA	NA	NA	NA	NA	
acenaphthene	360	0.55 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
anthracene	1800	5.8 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
benz(a)anthracene	1.1	0.011 (R)	ND	ND	ND	ND	ND	0.0034J	ND	U	U	U	U	NA	NA	NA	NA	NA	NA	
benzo(b)fluoranthene	1.1	0.3 (R)	ND	ND	ND	0.0031J	ND	0.0027J	ND	U	U	U	U	NA	NA	NA	NA	NA	NA	
benzo(k)fluoranthene	1.1	2.9 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
benzo(a)pyrene	0.11	0.24 (M)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
chrysene	110	9 (R)	ND	ND	ND	0.0041	ND	0.0039	ND	U	U	U	U	NA	NA	NA	NA	NA	NA	
di-benzo(a,h)anthracene	0.11	0.096 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
fluoranthene	240	8.9 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
fluorene	240	0.54 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
indeno(1,2,3-cd)pyrene	1.1	0.98 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
1-methylnaphthalene	18	0.006 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
2-methylnaphthalene	24	0.019 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
naphthalene	2	0.0038 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
pyrene	180	1.3 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
Metals in Soils																				
arsenic	0.68	0.29 (M)	5.1	3	4.3	5.6	3.3	3.3	2.7	3.4	3.1	3.2	3.3	5.12	3.18	5.33	3.02	3.18	3.91	
barium	15000	82 (M)	75.6	64	111	97.7	57.6	57.6	59.8	130	100	93	95	NA	NA	NA	NA	NA	NA	
cadmium	71	0.38 (M)	0.26J	0.29J	0.42	0.59	0.26J	0.28J	0.28J	0.044	0.21	0.19	0.13	NA	NA	NA	NA	NA	NA	
chromium (VI)	0.3	0.00067 (R)	ND	ND	ND	1.4	ND	0.672J	ND	U	U	U	U	ND	ND	ND	ND	ND	ND	
copper	3100	46 (M)	4.5	4.7	7.3	4.9	4.9	11.2	4.5	5.7	7.3	7.2	8.4	NA	NA	NA	NA	NA	NA	
lead	400	14 (M)	8	4.6	7.1	19.4	21.7	4.6	4.8	7.8	26	21	15	NA	NA	NA	NA	NA	NA	
nickel	1500	26 (R)	4	5	7.7	9.5	3.7	10.7	4.4	7.1	7.7	7.8	6.8	NA	NA	NA	NA	NA	NA	
selenium	390	0.26 (M)	ND	ND	ND	0.75J	ND	1.1J	ND	0.28	0.51	0.63	0.43	NA	NA	NA	NA	NA	NA	
silver	390	0.8 (R)	ND	U	U	U	U	NA	NA	NA	NA	NA	NA							
zinc	23000	370 (R)	20.4	19.2	27.8	29.8	21.1	34.6	21	22	24	24	24	NA	NA	NA	NA	NA	NA	

The letter "(R)" following a protection of Groundwater soil screening level indicates the concentration is derived from a risk-based approach. The letter "(M)" following a protection of Quantifier "J" indicated analyte is present at an estimated concentration between the MDL and Reporting Limit. Quantifier "U" indicates analyzed but not detected above the MDL. Values presented in **BOLD** contained concentrations exceeding ECDC Table 915-1 Residential Soil Screening Level limits, but are within Background results. Values presented in **RED** contained concentrations exceeding ECDC Table 915-1 Residential Soil Screening Level limits, and Background results. *Arsenic is naturally occurring in Colorado at concentrations above ECDC Table 915-1

MULL UNIT 20
API 05-017-06274
Remediation # 26871
MULL DRILLING COMPANY INC.



ATTACHMENT A
Laboratory Analytical Reports

March 25, 2024

Mull Drilling

Trisha Fanning

1700 N Waterfront Pkway Bldg #1200

Wichita KS 67206

Project Name - MUSF 20

Project Number - [none]

Attached are your analytical results for MUSF 20 received by Origins Laboratory, Inc. March 01, 2024. This project is associated with Origins project number Y403013-01.

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



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

Trisha Fanning
Project Number: [none]
Project: MUSF 20

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP1@6'	Y403013-01	Soil	February 28, 2024 9:06	03/01/2024 11:30
SP2@4'	Y403013-02	Soil	February 28, 2024 11:21	03/01/2024 11:30
SP3@6'	Y403013-03	Soil	February 28, 2024 11:39	03/01/2024 11:30
SP5@4'	Y403013-04	Soil	February 28, 2024 11:58	03/01/2024 11:30

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.

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF 20

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 460303

Client: Mull Drilling

Client Project ID: MUSF 20

Checklist Completed by: TJH/SHS

Shipped Via: HUO

Date/time completed: 3/01/24

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: N/A

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

Cooler Number/Temperature: 1, 2 °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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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) [Signature]

3/14/24
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF 20

SP1@6'

2/28/2024 9:06:00AM

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

Origins Laboratory, Inc.
 Y403013-01 (Soil)

pH in Soil by 9045D

pH	8.51			pH Units	1	B4C0216	03/02/2024	03/03/2024	
----	------	--	--	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

Arsenic	5.12		0.249	mg/kg	10	B4C0125	03/01/2024	03/08/2024	
---------	------	--	-------	-------	----	---------	------------	------------	--

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L739852	02/28/2024	03/22/2024	
----------------------	----	-------	-----	-------	---	---------	------------	------------	--

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.

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF 20

SP2@4'

2/28/2024 11:21:00AM

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

Origins Laboratory, Inc.
Y403013-02 (Soil)

pH in Soil by 9045D

pH	8.46			pH Units	1	B4C0216	03/02/2024	03/03/2024	
----	------	--	--	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

Arsenic	3.18		0.264	mg/kg	10	B4C0125	03/01/2024	03/08/2024	
---------	------	--	-------	-------	----	---------	------------	------------	--

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L739852	02/28/2024	03/22/2024	
----------------------	----	-------	-----	-------	---	---------	------------	------------	--

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.

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF 20

SP3@6'

2/28/2024 11:39:00AM

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

Origins Laboratory, Inc.
 Y403013-03 (Soil)

pH in Soil by 9045D

pH	8.50			pH Units	1	B4C0216	03/02/2024	03/03/2024	
----	------	--	--	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

Arsenic	5.33		0.249	mg/kg	10	B4C0125	03/01/2024	03/08/2024	
---------	------	--	-------	-------	----	---------	------------	------------	--

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L739852	02/28/2024	03/22/2024	
----------------------	----	-------	-----	-------	---	---------	------------	------------	--

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.

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF 20

SP5@4'

2/28/2024 11:58:00AM

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

Origins Laboratory, Inc.
 Y403013-04 (Soil)

pH in Soil by 9045D

pH	8.54			pH Units	1	B4C0216	03/02/2024	03/03/2024	
----	------	--	--	----------	---	---------	------------	------------	--

Table 915 metals by EPA 6020B

Arsenic	3.02		0.278	mg/kg	10	B4C0125	03/01/2024	03/08/2024	
---------	------	--	-------	-------	----	---------	------------	------------	--

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L739852	02/28/2024	03/22/2024	
----------------------	----	-------	-----	-------	---	---------	------------	------------	--

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.

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF 20

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 B4C0125 - EPA 3050B										
Blank (B4C0125-BLK1)					Prepared: 03/01/2024 Analyzed: 03/08/2024					
Arsenic	ND	0.290	mg/kg							
LCS (B4C0125-BS1)					Prepared: 03/01/2024 Analyzed: 03/08/2024					
Arsenic	5.56	0.290	mg/kg	5.00		111	80-120			
Matrix Spike (B4C0125-MS1)					Source: Y403011-02 Prepared: 03/01/2024 Analyzed: 03/08/2024					
Arsenic	19.5	0.265	mg/kg	4.57	15.0	99.8	75-125			
Matrix Spike Dup (B4C0125-MSD1)					Source: Y403011-02 Prepared: 03/01/2024 Analyzed: 03/08/2024					
Arsenic	19.4	0.255	mg/kg	4.39	15.0	101	75-125	0.690	20	

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.

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF 20

Saturated Paste - Quality Control
Origins Laboratory, Inc.

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

Batch B4C0216 - Saturated Paste pH/EC

Duplicate (B4C0216-DUP1)

Source: Y402713-21

Prepared: 03/02/2024 Analyzed: 03/03/2024

pH	8.48		pH Units		8.47			0.118	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.

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF 20

Total Metals by 7196A - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L739852 -										
DUP (L 85856-DUP)		Source: 85856			Prepared: Analyzed: 03/22/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
MS (L 85856-MS)		Source: 85856			Prepared: Analyzed: 03/22/2024					
Chromium, Hexavalent	33.1	2.5	mg/Kg	39.6	< 0.244	84	75-125			
LCS (LCS)		Prepared: Analyzed: 03/22/2024								
Chromium, Hexavalent	6.8	0.5	mg/Kg	8		85	75-125			
LRB (LRB)		Prepared: Analyzed: 03/22/2024								
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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.

Mull Drilling

1700 N Waterfront Pkway Bldg #1200

Wichita KS 67206

Trisha Fanning

Project Number: [none]

Project: MUSF 20

Notes and Definitions

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.



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.

March 25, 2024

Mull Drilling

Trisha Fanning

1700 N Waterfront Pkway Bldg #1200

Wichita KS 67206

Project Name - MUSF BG

Project Number - [none]

Attached are your analytical results for MUSF BG received by Origins Laboratory, Inc. March 01, 2024. This project is associated with Origins project number Y403015-01.

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



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

Trisha Fanning
Project Number: [none]
Project: MUSF BG

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG-01@4'	Y403015-01	Soil	March 28, 2024 10:50	03/01/2024 11:30
BG-01@6'	Y403015-02	Soil	March 28, 2024 11:10	03/01/2024 11:30

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.

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF BG

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4408015 Client: Mull Drilling
 Client Project ID: MUSF BG
 Checklist Completed by: JPH/EAS Shipped Via: HUO
 Date/time completed: 3/01/12 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____ (Describe)
 Cooler Number/Temperature: 1, 2 °C / _____ °C / _____ °C / _____ °C
 Thermometer ID: 7004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>			
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>			
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – Is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>			
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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			
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)

Date/Time Reviewed

Origins Laboratory, Inc.



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

Trisha Fanning
 Project Number: [none]
 Project: MUSF BG

BG-01@4'

3/28/2024 10:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y403015-01 (Soil)

pH in Soil by 9045D

pH	8.38			pH Units	1	B4C0216	03/02/2024	03/03/2024	
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Table 915 metals by EPA 6020B

Arsenic	3.18		0.258	mg/kg	10	B4C0125	03/01/2024	03/08/2024	
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Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L739852	02/28/2024	03/22/2024	
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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.

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

Trisha Fanning
 Project Number: [none]
 Project: MUSF BG

BG-01@6'

3/28/2024 11:10:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y403015-02 (Soil)

pH in Soil by 9045D

pH	8.50			pH Units	1	B4C0216	03/02/2024	03/03/2024	
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Table 915 metals by EPA 6020B

Arsenic	3.91		0.249	mg/kg	10	B4C0125	03/01/2024	03/08/2024	
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Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L739852	02/28/2024	03/22/2024	
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Origins Laboratory, Inc.



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

Trisha Fanning
 Project Number: [none]
 Project: MUSF BG

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 B4C0125 - EPA 3050B										
Blank (B4C0125-BLK1)					Prepared: 03/01/2024 Analyzed: 03/08/2024					
Arsenic	ND	0.290	mg/kg							
LCS (B4C0125-BS1)					Prepared: 03/01/2024 Analyzed: 03/08/2024					
Arsenic	5.56	0.290	mg/kg	5.00		111	80-120			
Matrix Spike (B4C0125-MS1)					Source: Y403011-02 Prepared: 03/01/2024 Analyzed: 03/08/2024					
Arsenic	19.5	0.265	mg/kg	4.57	15.0	99.8	75-125			
Matrix Spike Dup (B4C0125-MSD1)					Source: Y403011-02 Prepared: 03/01/2024 Analyzed: 03/08/2024					
Arsenic	19.4	0.255	mg/kg	4.39	15.0	101	75-125	0.690	20	

Origins Laboratory, Inc.



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

Trisha Fanning
 Project Number: [none]
 Project: MUSF BG

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4C0216 - Saturated Paste pH/EC

Duplicate (B4C0216-DUP1)

Source: Y402713-21

Prepared: 03/02/2024 Analyzed: 03/03/2024

pH	8.48		pH Units		8.47			0.118	25	
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Origins Laboratory, Inc.



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

Trisha Fanning
 Project Number: [none]
 Project: MUSF BG

Total Metals by 7196A - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L739852 -										
DUP (L 85856-DUP)		Source: 85856			Prepared: Analyzed: 03/22/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
MS (L 85856-MS)		Source: 85856			Prepared: Analyzed: 03/22/2024					
Chromium, Hexavalent	33.1	2.5	mg/Kg	39.6	< 0.244	84	75-125			
LCS (LCS)		Prepared: Analyzed: 03/22/2024								
Chromium, Hexavalent	6.8	0.5	mg/Kg	8		85	75-125			
LRB (LRB)		Prepared: Analyzed: 03/22/2024								
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

Origins Laboratory, Inc.



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Mull Drilling

1700 N Waterfront Pkway Bldg #1200

Wichita KS 67206

Trisha Fanning

Project Number: [none]

Project: MUSF BG

Notes and Definitions

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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