

# ORIGINS LABORATORY

Eagle Environmental Consulting, LLC

Dan Coloccia

8000 W 44th Ave

Wheat Ridge CO 80033

December 26, 2024

**Project Name - KMG - Freauff 33-4A**

**Project Number - [none]**

Attached are your analytical results for KMG - Freauff 33-4A received by Origins Laboratory November 15, 2024. This project is associated with Origins project number E4K0459-01.

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  
303.433.1322  
projectmanager@originslab.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645



Eagle Environmental Consulting, LLC  
8000 W 44th Ave  
Wheat Ridge CO 80033

Dan Coloccia  
Project Number: [none]  
Project: KMG - Freauff 33-4A

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-BG04@3'	E4K0459-01	Soil	November 15, 2024 10:30	11/15/2024 13:50
FL-BG04@5'	E4K0459-02	Soil	November 15, 2024 10:45	11/15/2024 13:50
FL-BG05@3'	E4K0459-03	Soil	November 15, 2024 11:00	11/15/2024 13:50
FL-BG05@5'	E4K0459-04	Soil	November 15, 2024 11:15	11/15/2024 13:50
FL-BG06@3'	E4K0459-05	Soil	November 15, 2024 11:30	11/15/2024 13:50
FL-BG06@5'	E4K0459-06	Soil	November 15, 2024 11:45	11/15/2024 13:50
FL-BG07@4'	E4K0459-07	Soil	November 15, 2024 12:00	11/15/2024 13:50
FL-BG08@4'	E4K0459-08	Soil	November 15, 2024 12:15	11/15/2024 13:50

Origins Laboratory

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 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A



11725 Elk Place, Denver, Co. 80231 | # 303.433.1322 | originslab.com

Temp Received: 4.9

Received On Ice?  Yes  No

Turnaround Time  
 SAME DAY  24 HR  
 48 HR  72

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis									Comments
							V	I	D	P	C	B	S	T	S	
1	FL-8604E3	11/15/24	1030	3	S	WSP	X	X	X	X	X	X	X	X	X	
2	FL-8604E5		1045													
3	FL-8605E3		1100													
4	FL-8605E5		1115													
5	FL-8606E3		1130													
6	FL-8606E5		1145													
7	FL-8607E4		1200													
8	FL-8608E4		1215													
9																
10																

Client: Eagle Environmental Consulting  
 Address: 8000 W 44th Ave  
 Telephone Number: 303-433-0479  
 Email Address: dcoloccia@eagle-env.com  
 Project Manager: D. Coloccia  
 Project Name: Freauff 33-4A  
 Project Number: \_\_\_\_\_  
 Collected By: CB  
 Invoice/Billing Info: Unpackaged / Dry  
 L-Liquid  W-Waste Water  SW-Surface Water  GW-Groundwater

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 Project Number: [none]  
 Project: KMG - Freauff 33-4A

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: E4K0459

Client: Eagle

Client Project ID: Freauff 33-4A

Checklist Completed by: MW / WS

Shipped Via: HD

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

Date/time completed: 11/15/24

Airbill #: N/A

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

Cooler Number/Temperature: 1 A.9 °C / \_\_\_\_\_ °C / \_\_\_\_\_ °C (Describe)

Thermometer ID: T007

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)?</sup>	/			
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 <sup>(1)?</sup>	/			
Was adequate sample volume provided <sup>(1)?</sup>	/			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)?</sup>	/	/		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)?</sup>	/			
Does the COC agree with the number and type of sample bottles received <sup>(1)?</sup>	/			
Do the sample IDs on the bottle labels match the COC <sup>(1)?</sup>	/			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)?</sup>	/			
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 <sup>(1)?</sup> (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):				

<sup>(1)</sup>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]

Date/Time Reviewed 11/15/24

Origins Laboratory

[Signature]

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Eagle Environmental Consulting, LLC  
 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG04@3'

11/15/2024 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.360	0.101	mg/L	1	B4K1812	11/18/2024	11/19/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	2.94	0.499	meq/L	10	[CALC]	11/18/2024	11/19/2024
Magnesium	5.25	0.823	"	"	"	"	"
Sodium	2.31	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.40		pH Units	1	B4K1826	11/18/2024	11/19/2024
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**SAR by 20B Saturated Paste**

SAR	1.14	0.0100	SAR	1	B4K1819	11/18/2024	11/19/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.00	0.00500	mmhos/cm	1	B4K1826	11/18/2024	11/19/2024
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**Table 915 metals by EPA 6020B**

Arsenic	7.22	0.285	mg/kg	10	B4K1528	11/15/2024	11/16/2024
Barium	182	9.83	"	"	"	"	"
Cadmium	0.170	0.0983	"	"	"	"	"
Copper	13.7	9.83	"	"	"	"	"

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 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG04@3'

11/15/2024 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-01 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	11.5		0.983	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Nickel	15.8		0.983	"	"	"	"	"	"
Selenium	ND		0.256	"	"	"	"	"	"
Silver	ND		0.0983	"	"	"	"	"	"
Zinc	54.0		36.4	"	"	"	"	"	"

**Total Metals 7196A**

Hexavalent Chromium	ND	0.170	0.424	mg/kg dry	1	2718566	12/14/2024	12/17/2024	U
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Dan Coloccia  
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FL-BG04@5'

11/15/2024 10:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	2.48		0.0981	mg/L	1	B4K1812	11/18/2024	11/19/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	22.5		0.499	meq/L	10	[CALC]	11/18/2024	11/19/2024	
Magnesium	39.6		0.823	"	"	"	"	"	"
Sodium	14.5		0.435	"	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.09			pH Units	1	B4K1826	11/18/2024	11/19/2024	
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**SAR by 20B Saturated Paste**

SAR	2.60		0.0100	SAR	1	B4K1819	11/18/2024	11/19/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	4.81		0.00500	mmhos/cm	1	B4K1826	11/18/2024	11/19/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	7.82		0.264	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Barium	198		9.11	"	"	"	"	"	"
Cadmium	0.173		0.0911	"	"	"	"	"	"
Copper	14.9		9.11	"	"	"	"	"	"

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Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG04@5'

11/15/2024 10:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-02 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	10.4		0.911	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Nickel	14.5		0.911	"	"	"	"	"	"
Selenium	0.400		0.237	"	"	"	"	"	"
Silver	ND		0.0911	"	"	"	"	"	"
Zinc	50.6		33.7	"	"	"	"	"	"

**Total Metals 7196A**

Hexavalent Chromium	ND	0.168	0.419	mg/kg dry	1	2718566	12/14/2024	12/17/2024	U
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 Project: KMG - Freauff 33-4A

FL-BG05@3'

11/15/2024 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-03 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.272		0.100	mg/L	1	B4K1812	11/18/2024	11/19/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	3.36		0.499	meq/L	10	[CALC]	11/18/2024	11/19/2024	
Magnesium	2.90		0.823	"	"	"	"	"	"
Sodium	1.34		0.435	"	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.29			pH Units	1	B4K1826	11/18/2024	11/19/2024	
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**SAR by 20B Saturated Paste**

SAR	0.758		0.0100	SAR	1	B4K1819	11/18/2024	11/19/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.663		0.00500	mmhos/cm	1	B4K1826	11/18/2024	11/19/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	6.50		0.259	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Barium	167		8.94	"	"	"	"	"	"
Cadmium	0.219		0.0894	"	"	"	"	"	"
Copper	14.7		8.94	"	"	"	"	"	"

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 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG05@3'

11/15/2024 11:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-03 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	11.9		0.894	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Nickel	16.4		0.894	"	"	"	"	"	
Selenium	0.255		0.232	"	"	"	"	"	
Silver	ND		0.0894	"	"	"	"	"	
Zinc	58.0		33.1	"	"	"	"	"	

**Total Metals 7196A**

Hexavalent Chromium	ND	0.164	0.409	mg/kg dry	1	2718566	12/14/2024	12/17/2024	U
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FL-BG05@5'

11/15/2024 11:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-04 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.264		0.0999	mg/L	1	B4K1812	11/18/2024	11/19/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	3.96		0.499	meq/L	10	[CALC]	11/18/2024	11/19/2024	
Magnesium	4.88		0.823	"	"	"	"	"	"
Sodium	1.45		0.435	"	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.27			pH Units	1	B4K1826	11/18/2024	11/19/2024	
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**SAR by 20B Saturated Paste**

SAR	0.689		0.0100	SAR	1	B4K1819	11/18/2024	11/19/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.975		0.00500	mmhos/cm	1	B4K1826	11/18/2024	11/19/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	6.60		0.256	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Barium	687		8.84	"	"	"	"	"	"
Cadmium	0.221		0.0884	"	"	"	"	"	"
Copper	13.7		8.84	"	"	"	"	"	"

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FL-BG05@5'

11/15/2024 11:15:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-04 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	11.8		0.884	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Nickel	15.6		0.884	"	"	"	"	"	"
Selenium	0.258		0.230	"	"	"	"	"	"
Silver	ND		0.0884	"	"	"	"	"	"
Zinc	58.1		32.7	"	"	"	"	"	"

**Total Metals 7196A**

Hexavalent Chromium	ND	0.145	0.363	mg/kg dry	1	2718566	12/14/2024	12/17/2024	U
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Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG06@3'

11/15/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-05 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.345		0.101	mg/L	1	B4K1812	11/18/2024	11/19/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	3.01		0.499	meq/L	10	[CALC]	11/18/2024	11/19/2024	
Magnesium	3.35		0.823	"	"	"	"	"	"
Sodium	2.35		0.435	"	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.31			pH Units	1	B4K1826	11/18/2024	11/19/2024	
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**SAR by 20B Saturated Paste**

SAR	1.32		0.0100	SAR	1	B4K1819	11/18/2024	11/19/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.852		0.00500	mmhos/cm	1	B4K1826	11/18/2024	11/19/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	5.86		0.280	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Barium	185		9.66	"	"	"	"	"	"
Cadmium	0.214		0.0966	"	"	"	"	"	"
Copper	14.6		9.66	"	"	"	"	"	"

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Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG06@3'

11/15/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory  
 E4K0459-05 (Soil)

**Table 915 metals by EPA 6020B**

Lead	12.3		0.966	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Nickel	16.7		0.966	"	"	"	"	"	
Selenium	0.281		0.251	"	"	"	"	"	
Silver	ND		0.0966	"	"	"	"	"	
Zinc	60.6		35.7	"	"	"	"	"	

**Total Metals 7196A**

Hexavalent Chromium	ND	0.175	0.438	mg/kg dry	1	2718566	12/14/2024	12/17/2024	U
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Eagle Environmental Consulting, LLC  
 8000 W 44th Ave  
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Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG06@5'

11/15/2024 11:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-06 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	1.08		0.101	mg/L	1	B4K1812	11/18/2024	11/19/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	12.4		0.499	meq/L	10	[CALC]	11/18/2024	11/19/2024	
Magnesium	19.1		0.823	"	"	"	"	"	"
Sodium	5.07		0.435	"	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.14			pH Units	1	B4K1826	11/18/2024	11/19/2024	
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**SAR by 20B Saturated Paste**

SAR	1.28		0.0100	SAR	1	B4K1819	11/18/2024	11/19/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.71		0.00500	mmhos/cm	1	B4K1826	11/18/2024	11/19/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	8.08		0.281	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Barium	229		9.67	"	"	"	"	"	"
Cadmium	0.173		0.0967	"	"	"	"	"	"
Copper	14.6		9.67	"	"	"	"	"	"

Origins Laboratory

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Eagle Environmental Consulting, LLC  
 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG06@5'

11/15/2024 11:45:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory  
 E4K0459-06 (Soil)

**Table 915 metals by EPA 6020B**

Lead	12.3		0.967	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Nickel	17.3		0.967	"	"	"	"	"	"
Selenium	0.289		0.251	"	"	"	"	"	"
Silver	ND		0.0967	"	"	"	"	"	"
Zinc	60.0		35.8	"	"	"	"	"	"

**Total Metals 7196A**

Hexavalent Chromium	ND	0.160	0.399	mg/kg dry	1	2718566	12/14/2024	12/17/2024	U
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Origins Laboratory

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Eagle Environmental Consulting, LLC  
 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG07@4'

11/15/2024 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-07 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.570		0.0985	mg/L	1	B4K1812	11/18/2024	11/19/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	1.54		0.499	meq/L	10	[CALC]	11/18/2024	11/19/2024	
Magnesium	3.00		0.823	"	"	"	"	"	"
Sodium	0.588		0.435	"	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.39			pH Units	1	B4K1826	11/18/2024	11/19/2024	
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**SAR by 20B Saturated Paste**

SAR	0.390		0.0100	SAR	1	B4K1819	11/18/2024	11/19/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.508		0.00500	mmhos/cm	1	B4K1826	11/18/2024	11/19/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	7.68		0.259	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Barium	271		8.93	"	"	"	"	"	"
Cadmium	0.168		0.0893	"	"	"	"	"	"
Copper	14.1		8.93	"	"	"	"	"	"

Origins Laboratory

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Eagle Environmental Consulting, LLC  
 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG07@4'

11/15/2024 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-07 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	10.9		0.893	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Nickel	15.5		0.893	"	"	"	"	"	"
Selenium	0.288		0.232	"	"	"	"	"	"
Silver	ND		0.0893	"	"	"	"	"	"
Zinc	54.7		33.0	"	"	"	"	"	"

**Total Metals 7196A**

Hexavalent Chromium	ND	0.164	0.409	mg/kg dry	1	2718566	12/14/2024	12/17/2024	U
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Origins Laboratory

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 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG08@4'

11/15/2024 12:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-08 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.282		0.102	mg/L	1	B4K1812	11/18/2024	11/19/2024	
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**Metals by Saturated Paste by EPA 6010**

Calcium	2.89		0.499	meq/L	10	[CALC]	11/18/2024	11/19/2024	
Magnesium	3.76		0.823	"	"	"	"	"	"
Sodium	2.30		0.435	"	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.31			pH Units	1	B4K1826	11/18/2024	11/19/2024	
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**SAR by 20B Saturated Paste**

SAR	1.26		0.0100	SAR	1	B4K1819	11/18/2024	11/19/2024	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.894		0.00500	mmhos/cm	1	B4K1826	11/18/2024	11/19/2024	
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**Table 915 metals by EPA 6020B**

Arsenic	7.19		0.276	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Barium	292		9.53	"	"	"	"	"	"
Cadmium	0.232		0.0953	"	"	"	"	"	"
Copper	15.5		9.53	"	"	"	"	"	"

Origins Laboratory

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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

FL-BG08@4'

11/15/2024 12:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory**  
**E4K0459-08 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	13.0		0.953	mg/kg	10	B4K1528	11/15/2024	11/16/2024	
Nickel	17.4		0.953	"	"	"	"	"	"
Selenium	0.292		0.248	"	"	"	"	"	"
Silver	ND		0.0953	"	"	"	"	"	"
Zinc	63.0		35.3	"	"	"	"	"	"

**Total Metals 7196A**

Hexavalent Chromium	ND	0.152	0.380	mg/kg dry	1	2718566	12/14/2024	12/17/2024	U
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Origins Laboratory

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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

**Metals by EPA 6000/7000 Series Methods - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1528 - EPA 3050B**

**Blank (B4K1528-BLK1)**

Prepared: 11/15/2024 Analyzed: 11/16/2024

Arsenic	ND	0.290	mg/kg							
Barium	ND	10.0	"							
Cadmium	ND	0.100	"							
Copper	ND	10.0	"							
Lead	ND	1.00	"							
Nickel	ND	1.00	"							
Selenium	ND	0.260	"							
Silver	ND	0.100	"							
Zinc	ND	37.0	"							

**LCS (B4K1528-BS1)**

Prepared: 11/15/2024 Analyzed: 11/16/2024

Arsenic	5.40	0.290	mg/kg	5.00		108	80-120			
Barium	553	10.0	"	500		111	80-120			
Cadmium	5.27	0.100	"	5.00		105	80-120			
Copper	58.1	10.0	"	50.0		116	80-120			
Lead	5.28	1.00	"	5.00		106	80-120			
Nickel	5.74	1.00	"	5.00		115	80-120			
Selenium	5.72	0.260	"	5.00		114	80-120			
Silver	5.71	0.100	"	5.00		114	80-120			
Zinc	54.1	37.0	"	50.0		108	80-120			

**Matrix Spike (B4K1528-MS1)**

**Source: E4K0455-01**

Prepared: 11/15/2024 Analyzed: 11/16/2024

Arsenic	9.78	0.285	mg/kg	4.91	4.77	102	75-125			
Barium	712	9.81	"	491	158	113	75-125			
Cadmium	5.24	0.0981	"	4.91	0.295	101	75-125			
Copper	70.4	9.81	"	49.1	18.9	105	75-125			
Lead	22.2	0.981	"	4.91	16.1	125	75-125			

Origins Laboratory

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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

**Metals by EPA 6000/7000 Series Methods - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1528 - EPA 3050B**

**Matrix Spike (B4K1528-MS1)**

**Source: E4K0455-01**

Prepared: 11/15/2024 Analyzed: 11/16/2024

Nickel	17.8	0.981	mg/kg	4.91	12.8	101	75-125			
Selenium	4.88	0.255	"	4.91	0.255	94.2	75-125			
Silver	5.45	0.0981	"	4.91	0.127	108	75-125			
Zinc	117	36.3	"	49.1	64.5	108	75-125			

**Matrix Spike Dup (B4K1528-MSD1)**

**Source: E4K0455-01**

Prepared: 11/15/2024 Analyzed: 11/16/2024

Arsenic	9.97	0.280	mg/kg	4.84	4.77	108	75-125	1.97	20	
Barium	706	9.67	"	484	158	113	75-125	0.885	20	
Cadmium	5.43	0.0967	"	4.84	0.295	106	75-125	3.54	20	
Copper	73.7	9.67	"	48.4	18.9	113	75-125	4.54	20	
Lead	24.4	0.967	"	4.84	16.1	173	75-125	9.53	20	QM-07
Nickel	17.4	0.967	"	4.84	12.8	93.4	75-125	2.48	20	
Selenium	4.83	0.251	"	4.84	0.255	94.6	75-125	1.02	20	
Silver	5.69	0.0967	"	4.84	0.127	115	75-125	4.29	20	
Zinc	121	35.8	"	48.4	64.5	116	75-125	2.73	20	

Origins Laboratory

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Eagle Environmental Consulting, LLC  
 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

**Classical Chemistry Parameters - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1812 - DTPA Sorbitol Preparation**

**Blank (B4K1812-BLK1)**

Prepared: 11/18/2024 Analyzed: 11/19/2024

Boron ND 0.100 mg/L

**Duplicate (B4K1812-DUP1)**

Source: E4J0008-05

Prepared: 11/18/2024 Analyzed: 11/19/2024

Boron 4.03 0.100 mg/L 4.08 1.30 50

**Batch B4K1819 - Saturated Paste Metals**

**Blank (B4K1819-BLK1)**

Prepared: 11/18/2024 Analyzed: 11/19/2024

Calcium PPM ND 10.0 mg/L

SAR ND 0.0100 SAR

Magnesium PPM ND 10.0 mg/L

Sodium PPM ND 10.0 "

**Duplicate (B4K1819-DUP1)**

Source: E4K0456-10

Prepared: 11/18/2024 Analyzed: 11/19/2024

Calcium PPM 421 10.0 mg/L 429 1.91 50

SAR ND 0.0100 SAR 5.46 200

Magnesium PPM 354 10.0 mg/L 362 2.16 50

Sodium PPM 628 10.0 " 635 1.13 50

Origins Laboratory

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Eagle Environmental Consulting, LLC  
 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

**Saturated Paste - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4K1826 - Saturated Paste pH/EC**

**Blank (B4K1826-BLK1)**

Prepared: 11/18/2024 Analyzed: 11/19/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

**Duplicate (B4K1826-DUP1)**

**Source: E4K0456-10**

Prepared: 11/18/2024 Analyzed: 11/19/2024

pH 8.10 pH Units 8.11 0.123 25

Specific Conductance (EC) 5.57 0.00500 mmhos/cm 5.58 0.0753 25

Origins Laboratory

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 8000 W 44th Ave  
 Wheat Ridge CO 80033

Dan Coloccia  
 Project Number: [none]  
 Project: KMG - Freauff 33-4A

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2718566 - SW846 3060A</b>										
<b>BLANK (1205944908-BLK)</b>										
					Prepared: 12/14/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	ND	0.357	mg/kg			-				U
<b>LCS (1205944909-BKS)</b>										
					Prepared: 12/14/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	3.47	0.345	mg/kg	3.45		101	80-120			
<b>DUP (1205944910 D)</b>										
					Source: E4K0459-01 Prepared: 12/14/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	ND	0.424	mg/kg dry		<0.170		0-50	N/A	50	U
<b>MS (1205944911 S)</b>										
					Source: E4K0459-01 Prepared: 12/14/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	2.25	0.408	mg/kg dry	4.08	<0.163	52.2	75-125			
<b>DUP (1205944912 D)</b>										
					Source: E4K0459-02 Prepared: 12/14/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	ND	0.374	mg/kg dry		<0.150		0-50	N/A	50	U
<b>MS (1205944913 S)</b>										
					Source: E4K0459-02 Prepared: 12/14/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	2.89	0.453	mg/kg dry	4.53	<0.181	63.5	75-125			
<b>ILCS (1205944914-ILCS)</b>										
					Prepared: 12/14/2024 Analyzed: 12/17/2024					
Hexavalent Chromium	6.97	0.331	mg/kg	6.68		104	80-120			

Origins Laboratory

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8000 W 44th Ave  
Wheat Ridge CO 80033

Dan Coloccia  
Project Number: [none]  
Project: KMG - Freauff 33-4A

### Notes and Definitions

- 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.
  - 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

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